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Changes in AGRICULTURAL PRODUCTION and TECHNOLOGY in COLOMBIA

U.S. DEPARTMENT OF AGRICULTURE, ECONOMIC RESEARCH SERVICE
IN COOPERATION WITH
THE MINISTRY OF AGRICULTURE AND THE CENTRAL PLANNING AGENCY OF COLOMBIA

COLOMBIA

Selected Features

FOREWORD

To provide better knowledge for planning and implementing country development programs in the less-developed countries, the Agency for International Development asked the Economic Research Service of the U.S. Department of Agriculture to conduct research on a project entitled "Factors Associated With Differences and Changes in Agricultural Production in Underdeveloped Countries." Phase 1 of the research has been completed, and was reported in "Changes in Agriculture in 26 Developing Nations, 1948-63" (Foreign Agr. Econ. Rpt. No. 27, Economic Research Service, U.S. Department of Agriculture, November 1965). That report made a comparative analysis of rates of growth in agricultural output and factors affecting them.

Phase 2 of the research, a part of which is reported here, involves making a detailed analysis for selected countries of the specific relationship between factors and processes of change in agricultural output. The countries selected are Greece, Taiwan, Mexico, Brazil, Colombia, India, and Nigeria. The studies are being conducted by agricultural economists of the Economic Research Service, in cooperation with research organizations in each country. This is Part I of the detailed study on Colombia.

This report is the descriptive section of the history of agricultural development in Colombia, including a full set of consistent production statistics. Prior to this study, data series on Colombian agriculture were in a very unsatisfactory condition. Some of them were incomplete and others were available from several sources, which were often in serious disagreement. Therefore the author had to select and compile these series as his first and basic task. Total agricultural output is reported from 1950 to 1967, and crop output from 1948 to 1967.

Because the collection is not only convenient, but has been agreed upon as the most reliable available, it is even now in use in the Colombian Ministry of Agriculture and the Planning Board, and sought by others. To meet the demand there and to provide similar information generally, the full series is being published here, with the tables in both languages.

DIRECTOR, AGRICULTURAL AND RURAL DEVELOPMENT SERVICE
OFFICE OF THE WAR ON HUNGER
AGENCY FOR INTERNATIONAL DEVELOPMENT

ACKNOWLEDGMENTS

The compilation and selection of the historical statistics was a joint effort by many agencies who collect and publish Colombian data. Their generosity in providing the latest available estimates and in answering questions and giving advice and suggestions is inadequately acknowledged in the long list cited at the end of the report.

Francisco Forero, Nohyra Mosquera, and Guillermo Serrano, Ministry of Agriculture personnel assigned to the study, did most of the burdensome work. Gerald Trant and Maria Elena Silva of the University of Valle made available their large collection of data. Richard A. Smith, U.S. agricultural attache in Bogota, Uldarico Diaz and Jose Antonio Umana of the attache staff, and Charles Gibbons and Gae Bennett of the Economic Research Service (ERS), U.S. Department of Agriculture, all gave valuable assistance in selecting the final series. Tabulations were edited by Lula White of ERS. Lucia Cruz de Schlesinger and Maria Teresa Mendez, economists employed in the project, gave valuable suggestions. Throughout the course of the study, Guillermo Guerra and Alberto Garcia of the Ministry of Agriculture gave direct help.

Several members of the U.S. staff of the Agency for International Development (AID) in Bogota were helpful, notably Norman Ward and Kenneth McDermott. Albert Berry of Yale University made available a draft of his unpublished book on the development of Colombian agriculture. Richard G. Wheeler of the Foreign Development and Trade Division (FDTD), ERS, and Dale Adams, now with AID in Washington, D.C., contributed valuable suggestions.

Wade F. Gregory, formerly Chief of the Economic Development Branch, FDTD, who directed the broader project, helped at every stage with trenchant criticism and valuable ideas. D. C. Myrick, Foreign Programs Coordinator, FDTD, gave much help in the planning stage.

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Washington, D.C. 20250 June 1969

SUMMARY

Agricultural production in Colombia has increased rather steadily at an average annual rate of 3.3 percent since 1950. This has been about equal to the rate of population growth, so that production per capita has shown little change. Food production for domestic consumption has also increased at about the same rate as total agricultural production and food supplies per capita have been stable, falling a little below recommended international nutritional standards.

Most of the increase in agricultural production is attributable to increased acreage, with relatively slow growth in output per hectare, or yield, of land in use. Yields increased somewhat faster during the earlier years than during the later years of the period 1950-67. The slackening in the rate of increase in yield appeared to be associated with a tapering off in the rate of growth of nontraditional inputs such as farm machinery, fertilizers, pesticides, and better seeds.

Most of the expansion in crop production was concentrated in cotton, sugarcane, and rice. Each expanded both in area under cultivation and in yield per hectare. The crops that increased in production were cultivated with relatively modern technology and were on farms that were large in relation to peasant holdings. Little expansion in output occurred in crops that were grown principally under traditional culture on small farms.

Output of livestock and livestock products rose somewhat faster than that of crops, but in a pronounced cyclical pattern. Although efforts have been made to increase beef production for export, per capita cattle slaughter has declined in recent years as traditional production methods on ranches have been slow to change. In contrast, poultry and egg production has increased rapidly in recent years as modern technology has been successfully adopted.

For all agriculture, technological progress has not been rapid and may have recently slowed down somewhat. However, as in the case of poultry, eggs, and several crops, relatively advanced technology has been developed or imported from abroad.

CHANGES IN AGRICULTURAL PRODUCTION AND TECHNOLOGY IN COLOMBIA

by

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INTRODUCTION

This report is the first part of a study of agricultural productivity in Colombia being made jointly by the Colombian Ministry of Agriculture and the National Department of Planning (DAP) and the U.S. Department of Agriculture.

The first major problem was to establish a single set of historical estimates of production, acreage, and yield for crops and production of livestock and livestock products. The compilation of an internally consistent set of statistics is described in a statistical note in the appendix. The resulting series is presented in the appendix tables and provides the basis for the following description and analysis of Colombia's agricultural production and technological development during the past two decades.

The report begins with a general overview of Colombia's agricultural situation. Then the principal crops are classified into five groups based chiefly on the state of technology used in their production. Each of these groups is discussed with emphasis on production and technological changes during the past two decades. The fifth group is the relatively modern part of Colombian agriculture that has adopted mechanization.

The next section deals with production of livestock and livestock products. There is a brief treatment of dairy products, poultry and eggs, pork, and mutton. For beef animals, the historical relationship between slaughter and price is examined.

The final section presents Colombia's experience with three technological problems in agricultural development. The problems are concerned with (1) power for small farms, with emphasis on the gap between hand cultivation and mechanical operations; (2) labor-saving and capital-saving practices, where labor is abundant and capital is in short supply; and (3) transferability of advanced agricultural techniques from one country to another.

Throughout the report, tons are metric tons. Also, the following equivalents have been used: 1 hectare = 2.471 acres, and 6.90 pesos in 1958 = U.S. $1.

A GENERAL VIEW

For the past 18 or 20 years, agricultural output in Colombia has increased at an average annual rate of 3.3 percent, or about the same rate of growth as population. Despite great changes in economic and political conditions during the period and important changes in the output of various farm products, expansion in total agricultural output has been rather steady. In only 4 of the years between 1950 and 1967, output either equaled or declined a bit from the preceding year, and, in each instance, it expanded rapidly the following year. With roughly parallel growth in output and population, output per capita showed only minor variations throughout the period (figure 1).

Likewise, food production available for domestic consumption has expanded nearly as rapidly as total agricultural production and, thus, has about kept pace with growth in population.[1] Year-to-year variations have been considerable, sometimes reaching 5 percent, but no

[1] Food production available for domestic consumption is the same as total food production, except changes in the number of animals on farms and exports of cattle are excluded.

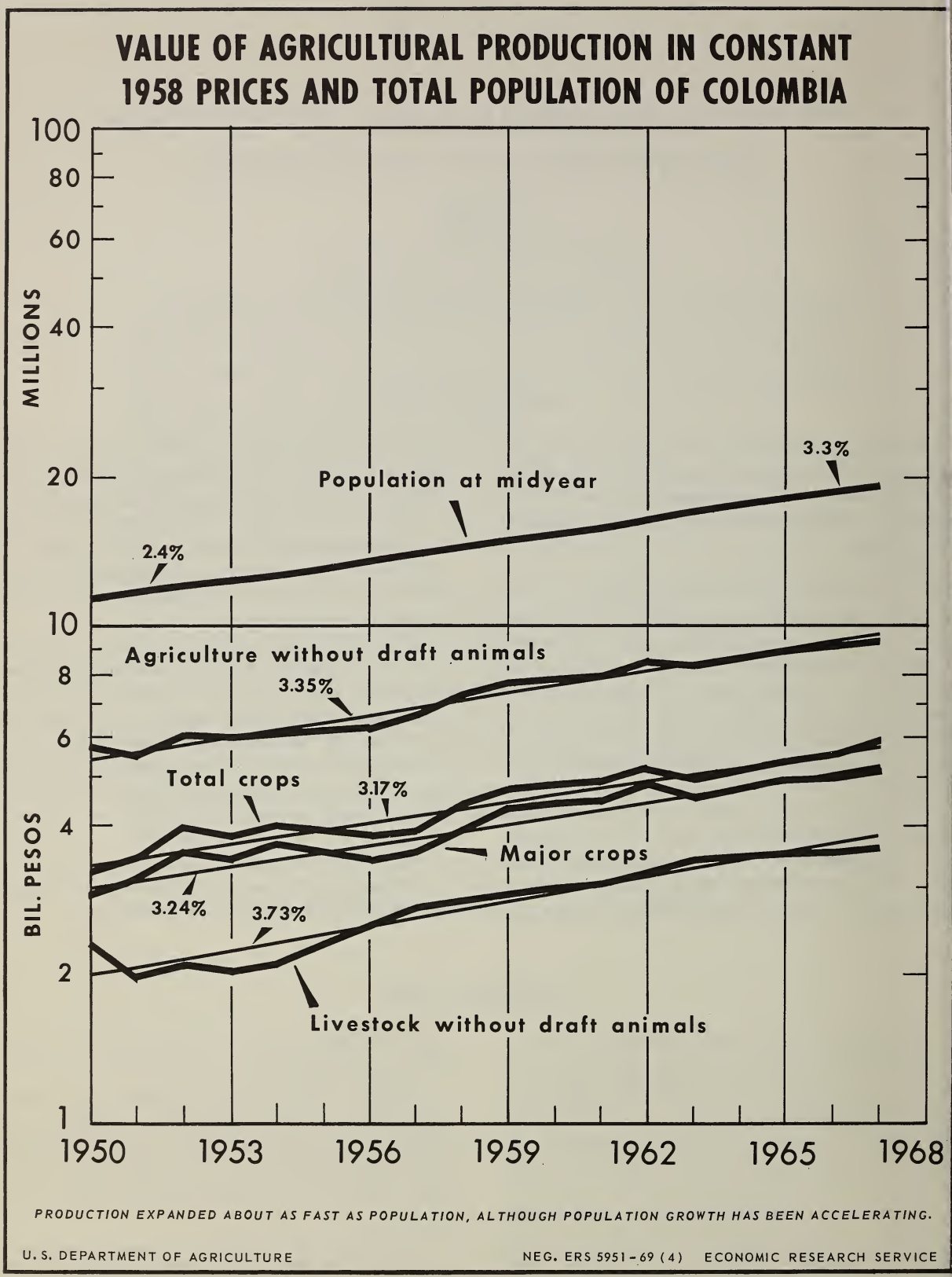
VALUE OF AGRICULTURAL PRODUCTION IN CONSTANT 1958 PRICES AND TOTAL POPULATION OF COLOMBIA
MILLIONS
BIL. PESOS
100
80
60
40
20
10
8
6
4
2
1
Population at midyear
2.4%
3.3%
Agriculture without draft animals
3.35%
Total crops
3.17%
Major crops
3.24%
3.73%
Livestock without draft animals
1950
1953
1956
1959
1962
1965
1968
PRODUCTION EXPANDED ABOUT AS FAST AS POPULATION, ALTHOUGH POPULATION GROWTH HAS BEEN ACCELERATING.
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5951-69 (4) ECONOMIC RESEARCH SERVICE

FIGURE 1

discernible trend has developed. The highest per capita production was attained in 1952 and 1962, while low outputs occurred in 1950, 1955, 1958, 1960, and 1967. Output per capita was relatively high in 1964, but in 1966 and 1967 it was below the average for the 18-year period.

Thus, food and agricultural production in Colombia is in an intermediate position among developing countries of the world. Despite one of the highest rates of population growth, there has been no deterioration in food output per capita (figure 2). However, there has not been any increase in production per capita, such as has characterized several developing countries in recent years and has formed an important part of their economic development.

Colombia badly needs an acceleration in food and agricultural production, despite the problems it may bring. Nutritional surveys conducted at intervals in Colombia—the largest in 1960—have shown that average calorie consumption is a little on the low side, and average consumption of animal protein is considerably below recommended nutritional standards. In addition, consumption was considerably below average by low-income families in both rural and urban areas. Since real income per capita has shown little advance in the past several years in Colombia, per capita demand for food and other farm products has been largely stationary. In the near future, unless there is an acceleration in the economy's rate of growth, per capita demand for farm products is likely to expand rather slowly, so that any substantial acceleration in farm output for domestic consumption will result in declines in farm prices, without an effective price-support program.

Demand-price elasticity estimates for farm products in Colombia are considerably higher than those calculated for the United States, Great Britain, Holland, and other developed countries, but they are still well below unity, i.e., inelastic. The relative decline in prices that would follow an expansion in per capita output would likely be considerably greater than the relative increase in production. Accordingly, it is desirable that a large part of any considerable increase in output per capita be channeled into export markets.[2] The principal reservation is the remaining possibilities of increasing domestic production of commodities that are now imported, principally wheat, fats and oils (especially palm oil), cocoa, and wool. However, these import substitution possibilities appear to be only limited exceptions for the near future.

The importance of accelerating farm production for export is emphasized by the fact that prospects for expansion of exports other than farm products are rather limited, according to recent projections.

The rather steady expansion in agricultural production since 1950 involved somewhat irregular changes in crop and livestock production. For the period 1950-55, production of all livestock and livestock products was stationary, primarily because of a decline in cattle production which was offset by expansion in other products. The period of declining slaughter was superficially similar to the cattle cycle common in the United States and other countries, during which marketings decline as farmers build up their herds. In reality, however, it was quite different in that the decline in slaughter was accompanied by a reduction in the number of animals on farms during a period of turbulence in rural areas. About 1955, there was a strong recovery in production of livestock and livestock products, and expansion has continued since that time at a rate about equal to that of population growth. Throughout 1950-67, output increased at an average annual rate of around 3.7 percent, or a little above the rate of population growth.

Crop production has been subject to somewhat greater changes. There was a sharp expansion from 1950 to 1954, lower production during the next 3 years (1955-57), and then a strong recovery from 1958 through 1960. Throughout the period 1950-67, the average annual rate of increase was about 3.2 percent, or a little above the rate of population growth in the early part of the period and a little below that of recent years.

Most of the increase in crop production is attributable to increased acreage in cultivation (figure 3). Yield per hectare registered only a small increase during the 20-year period 1948-67. In the past decade, average yield per hectare has been relatively stable at a level about 15 percent higher than in early years (1949-54) of the period; in the intervening years (1955-56), yields were appreciably lower. Thus, for the 20-year period, the outstanding fact is the very limited technological advance in crop production. Improved practices for some commercial crops (e.g., cotton, wheat, and rice) were accompanied by a general increase in losses attributable to disease and pests and by some decline in fertility, so that net increase in yield per hectare was quite limited.

From a short-term point of view, technological progress has been even less satisfactory. For a period of time that now extends to almost a decade, average crop

[2] It may be noted that only a secondary and gradual improvement would then be possible in nutritional levels. If the increase in per capita output were to be used primarily to improve diets, a special program would be required. Market forces are not likely to bring this about.

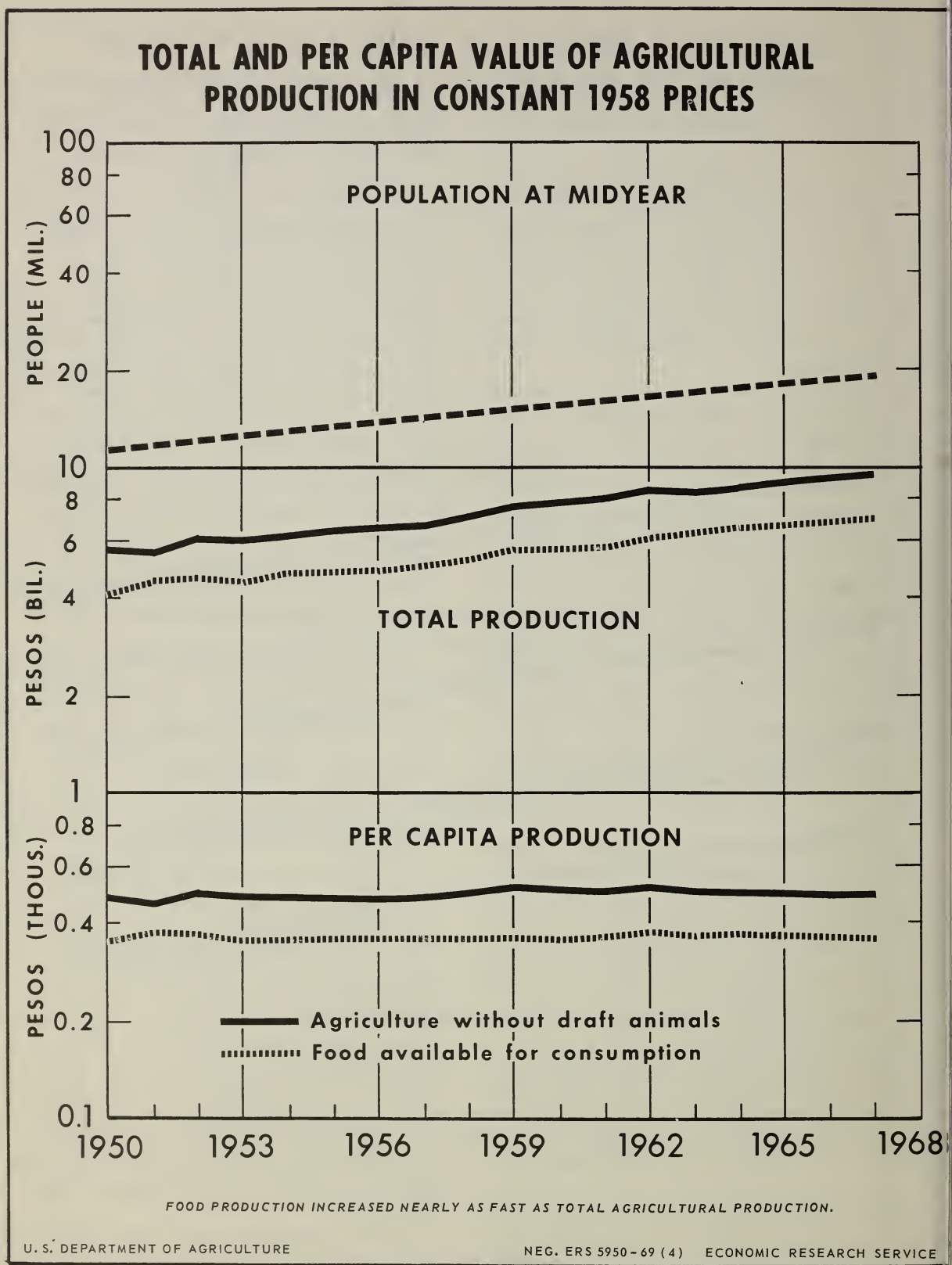
TOTAL AND PER CAPITA VALUE OF AGRICULTURAL PRODUCTION IN CONSTANT 1958 PRICES
PEOPLE (MIL.)
100
80
60
40
20
10
POPULATION AT MIDYEAR
PESOS (BIL.)
8
6
4
2
1
TOTAL PRODUCTION
PESOS (THOUS.)
0.8
0.6
0.4
0.2
0.1
PER CAPITA PRODUCTION
Agriculture without draft animals
Food available for consumption
1950
1953
1956
1959
1962
1965
1968
FOOD PRODUCTION INCREASED NEARLY AS FAST AS TOTAL AGRICULTURAL PRODUCTION.
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5950-69 (4) ECONOMIC RESEARCH SERVICE

FIGURE 2

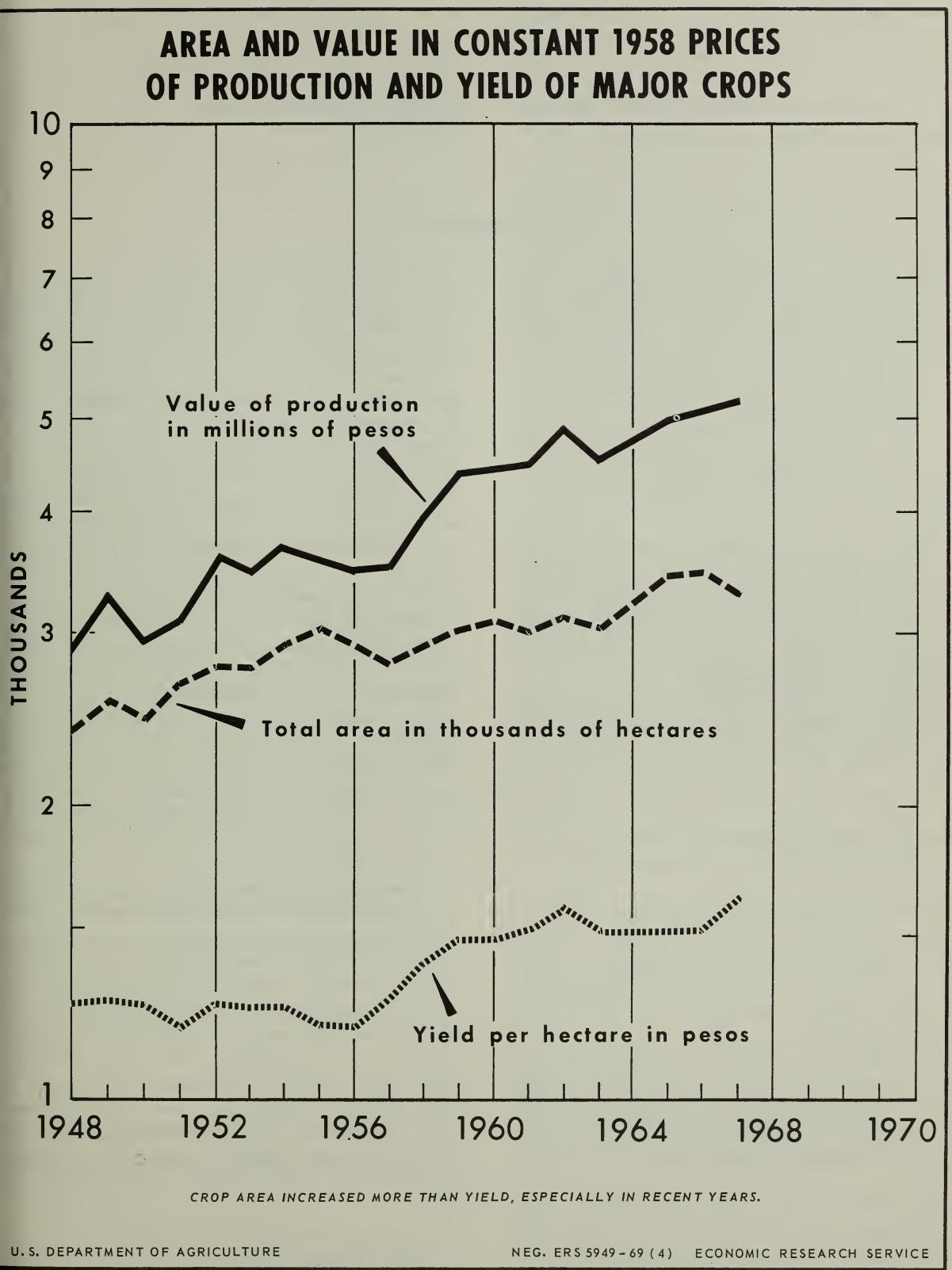
AREA AND VALUE IN CONSTANT 1958 PRICES
OF PRODUCTION AND YIELD OF MAJOR CROPS
10
9
8
7
6
5
4
3
2
1
THOUSANDS
Value of production
in millions of pesos
Total area in thousands of hectares
Yield per hectare in pesos
1948
1952
1956
1960
1964
1968
1970
CROP AREA INCREASED MORE THAN YIELD, ESPECIALLY IN RECENT YEARS.
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 5949-69 (4) ECONOMIC RESEARCH SERVICE

FIGURE 3

yields in Colombia have shown no appreciable change. Elsewhere in the world, this has been a period of rapid increase in output per hectare—perhaps even an acceleration over the rise in the preceding decade—for developed countries and for a considerable number of developing countries. The increase in total crop output that has been attained in Colombia in recent years has been the net result of some acceleration in the rate at which acreage has been brought into cultivation and some slowing down in the growth rate of nontraditional inputs (farm machinery, fertilizer, pesticides, and better seeds), compared with the 1950's.

CROP PRODUCTION

The diversity in Colombian agriculture is almost legendary and certainly bewildering. In some ways, Colombia appears to have a combination of the physical aspects of California, Texas, and the Appalachian region, and it is about as large in area. The usual classification of crops, according to temperature and elevation, into hot, warm, cool, and cold climate groups is often useful since most crops are limited to a single temperature belt, except corn, which is grown everywhere but in the cold region, where no significant agricultural activity is carried on.

For the purpose of considering production first and productivity changes second, the crops are divided into five groups. The first is coffee, which clearly merits a class to itself. The second is yuca, frijol (beans), panela, and plantains, traditional crops grown principally by small farmers using hand cultivation.

The third, rather heterogeneous group is the largest in acreage. It includes corn, potatoes, tobacco, and wheat. All these products have shown little growth in the past several years. Each crop is grown by small farmers using largely traditional practices, but each is also grown by large-scale commercial farmers using tractors and varying degrees of modern technology. This group is sometimes called "transitional," but a more appropriate designation is "mixed" crops, in the sense of mixed levels of technology. The distinction here is that traditional cultivation is not being shifted to more modern, commercial practices but, instead, is experiencing no reduction in its number of practitioners, little reduction in acreage it covers, and only limited use of nontraditional inputs.

Meanwhile, during the past 15 years, commercial production of each of these crops, with varying degrees of nontraditional inputs, has become significant, usually on acreage which has never been cultivated by hand tools, and by farmers who have never used traditional methods.

The fourth group is the relatively small group of plantation-type crops—bananas and cocoa. African palm oil production may fall into this group, but production is just beginning and no statistics are available.

The fifth and final group includes the three important crops—cotton, rice, and sugarcane.[3] The minor crops—sesame, soybeans, grain sorghums—and barley are placed in subgroup 5a. All of these crops are grown by commercial farmers using tractors and other nontraditional inputs. For the most part, they are grown on large farms organized much like plantations, so that perhaps it is useful to think of group 5 as modified plantation crops whose cultivation has shown important development in Colombia in the past two decades. Soybeans and sesame have never been grown by traditional methods to any significant extent, and grain sorghums had not been grown in the area that is now in commercial production. Cotton is now strictly a commercial crop produced principally by large farmers; the former traditional cotton production has been completely supplanted. Rice still has a significant amount of acreage cultivated traditionally, and even a higher proportion of the barley acreage is traditionally cultivated. Barley only marginally falls in group 5 rather than in the mixed-technology crop category. Production of cane for centrifugal sugar has long been large scale and commercial. It bears some similarity to the production of plantation-type crops, but it is more like that of cotton and rice in terms of using advanced technology.

In addition to the five groups of major crops, there is a long list of minor crops. These have been arranged into 13 categories—some as single crops and others in groups—by the Banco de la Republica; production in physical terms and value in constant 1958 pesos are shown in appendix tables 6 and 22. No statistics are available on their acreage and yield. In total, they represent about 10 percent of the value of agricultural crops, and their production has increased at about the same rate as that for all crops. The most important minor crops, in descending order, are various fruits and vegetables, beans, lentils, arracacha (a tuber similar to yuca), peas, sisal (a fiber), and yams.

[3] This is sugarcane for production of centrifugal sugar, as distinct from cane for production of panela which is in group 2.

Group 1: Coffee—A Special Case

Coffee is clearly a special case in Colombia. No other crop approaches it in production value, and only corn has a comparable acreage. And, of course, it is the chief export commodity of Colombia, still accounting for about three-fifths of the value of all exports. From a technological standpoint, it could be placed in group 3, with traditional techniques being the dominant pattern, but with appreciable development of more modern practices resulting in phenomenal increases in yield.

The distinguishing characteristic of the improved technology is the shift from a shade-grown variety of coffee to a new variety (caturra) grown in full sun. The sun-grown trees are smaller, have shorter productive lives, and are planted much closer together. Plantations using sun-grown trees may have up to 10 times as many trees per acre as those using the shade-grown type and, with yields per tree under good, modern management about as high as for the shade-grown trees, up to 10 times as much yield per hectare. Such new plantations, which contrast sharply with the traditional type, are a prominent feature of the coffee region in Caldas, and are reported to be very profitable.

Despite marketing problems that have limited the export of coffee, production has expanded somewhat in recent years. The principal expansion occurred about 1957-58 in the wake of high prices which prevailed for several years preceding that date (figure 4). Since then, expansion has been more gradual. Throughout the past decade, production has been in excess of exports and home consumption, and coffee stocks have accumulated about equal to 1 year's exports.[4]

Acreage reached two peaks: the first in 1954 was followed by 2 years of sharp contraction and then an expansion to a second peak in 1960 that has since contracted gradually (figure 5). With the lower prices for coffee that have prevailed during the past decade and the participation since 1961 in the International Coffee Agreement, which fixes quotas for exports, a program has been undertaken to diversify production of crops in the coffee-growing area. The program is voluntary, however, without restriction on the marketing of coffee by growers.

Average yield per hectare of coffee shows erratic fluctuations in the early years (1948-53) of the period (figure 6). Since then (for the 1954-66 period), yields have increased strongly, although irregularly, at an average annual rate of 2.3 percent, which is considerably faster than the average yield increase for all crops.

[4] The investment required in purchasing the coffee from farmers and in storing it in warehouses has constituted a considerable strain on the production resources of the nation during the period.

Group 2: Traditional Crops

The crops that have been least affected by modern technology and are still cultivated by traditional methods in small plots on small farms are beans, yuca, plantains, and cane for panela (and some other minor crops which are not included in this discussion, although available statistics are shown in the appendix tables). Yuca and plantains are largely subsistence crops, but beans are typically a cash crop. Panela belongs in both categories. It is an important cash crop in some areas, especially in the Cauca Valley, where production per farm is occasionally on a commercial scale. On the other hand, cane for panela or for juice, often fermented, is a subsistence crop everywhere that climate will permit. Cane for forage is significant in a few areas.

Statistics available for these crops for the past two decades show a small rise in acreage in the early years of the period and not much change in the latter years. Yields were about the same at the beginning of the period as at the end, with some decline in the early years and a comparable rise in the past decade. Production was relatively stable through most of the period but has been a little higher in recent years. Production per capita has declined. (A simple hypothesis for this decline is that as farmers migrated to urban areas where they had to purchase all their food they switched from yuca and plantains to rice and wheat, and from panela to refined sugar.)

Group 3: Mixed-Technology Crops With Both Traditional and Nontraditional Culture

Group 3 is characterized by large acreage with little expansion. It is very heterogeneous; in fact, it is the residual group after the more clearly defined groups—traditional, plantation, and commercialized—have been designated. It contains corn, potatoes, wheat, and tobacco. The first thought that comes to mind is what do these crops have in common? And the first reaction may be that they have very little. If there is a common characteristic, it is that each crop is cultivated both by small-scale, traditional farmers (campesinos, minifundistas) and by relatively modern operators using nontraditional inputs—mechanical equipment, improved seeds, fertilizers, and chemicals for the control of weeds, diseases, and pests. Each of the crops is important in the temperate zones, and each has been the recipient of considerable research and development expenditures.

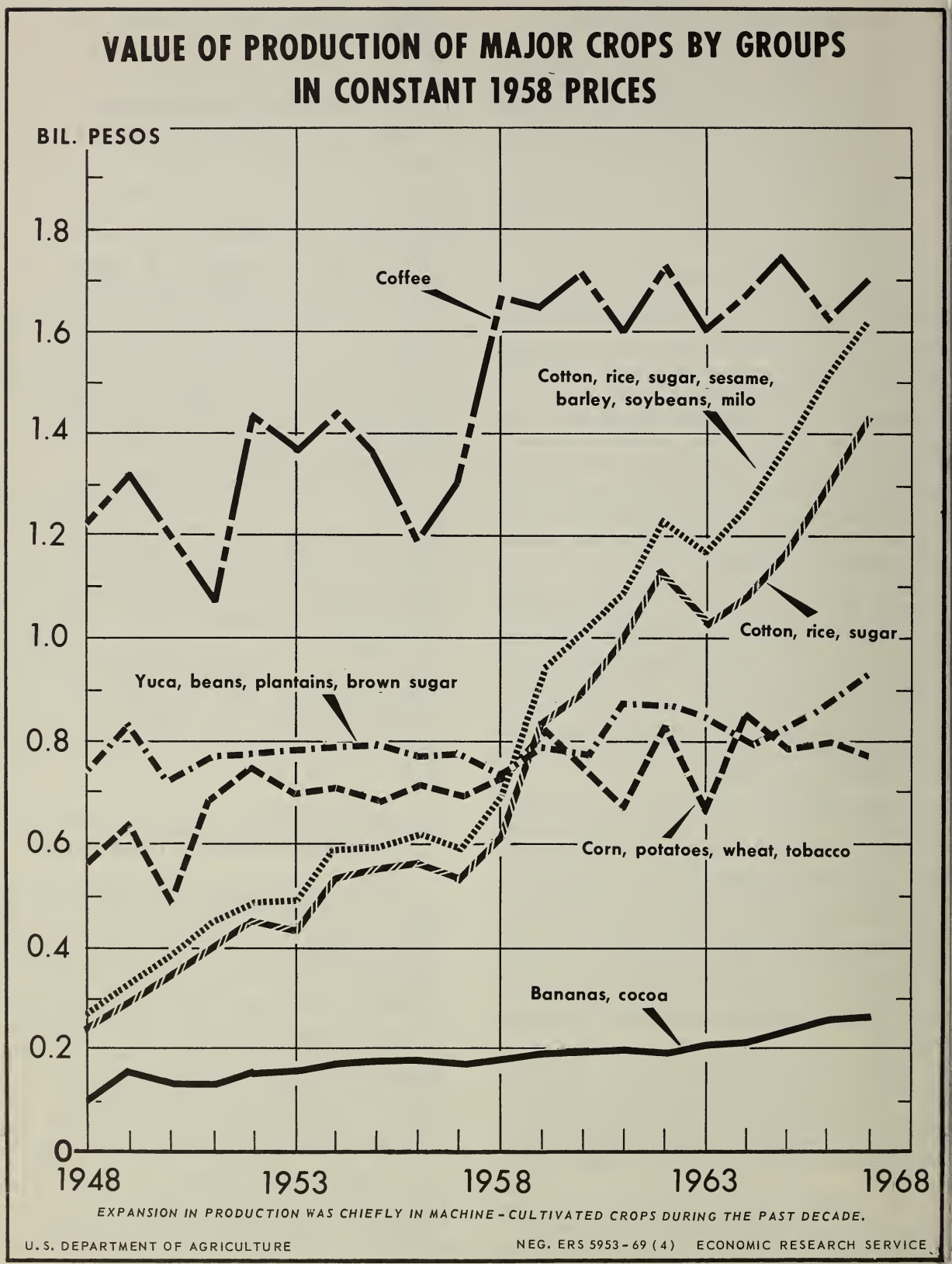
VALUE OF PRODUCTION OF MAJOR CROPS BY GROUPS
IN CONSTANT 1958 PRICES
BIL. PESOS
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0
Coffee
Cotton, rice, sugar, sesame, barley, soybeans, milo
Cotton, rice, sugar
Yuca, beans, plantains, brown sugar
Corn, potatoes, wheat, tobacco
Bananas, cocoa
1948
1953
1958
1963
1968
EXPANSION IN PRODUCTION WAS CHIEFLY IN MACHINE-CULTIVATED CROPS DURING THE PAST DECADE.
U.S. DEPARTMENT OF AGRICULTURE
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FIGURE 4

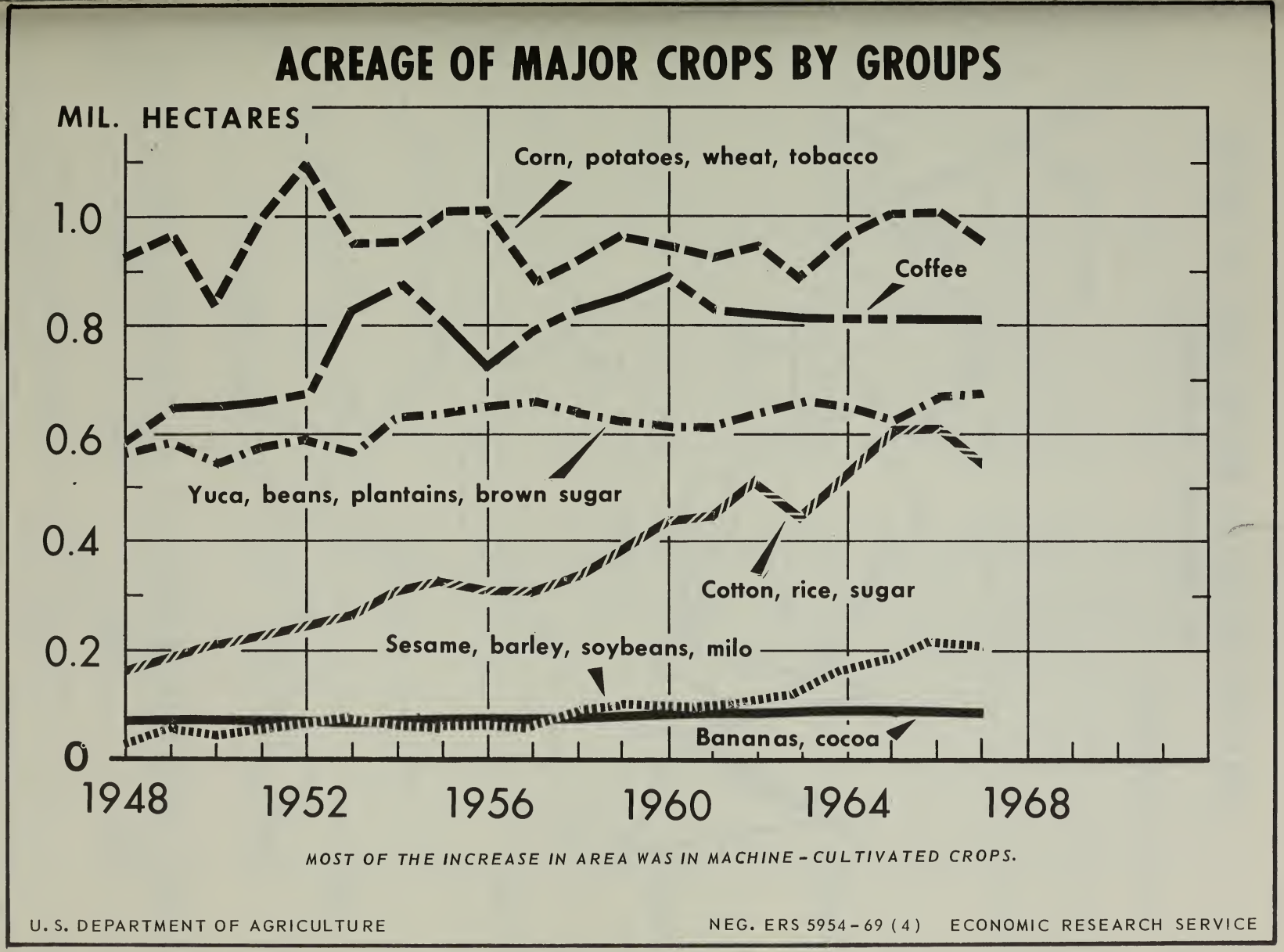
ACREAGE OF MAJOR CROPS BY GROUPS
MIL. HECTARES
1.0
0.8
0.6
0.4
0.2
0
1948
1952
1956
1960
1964
1968
Corn, potatoes, wheat, tobacco
Coffee
Yuca, beans, plantains, brown sugar
Cotton, rice, sugar
Sesame, barley, soybeans, milo
Bananas, cocoa
MOST OF THE INCREASE IN AREA WAS IN MACHINE-CULTIVATED CROPS.
U. S. DEPARTMENT OF AGRICULTURE
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FIGURE 5

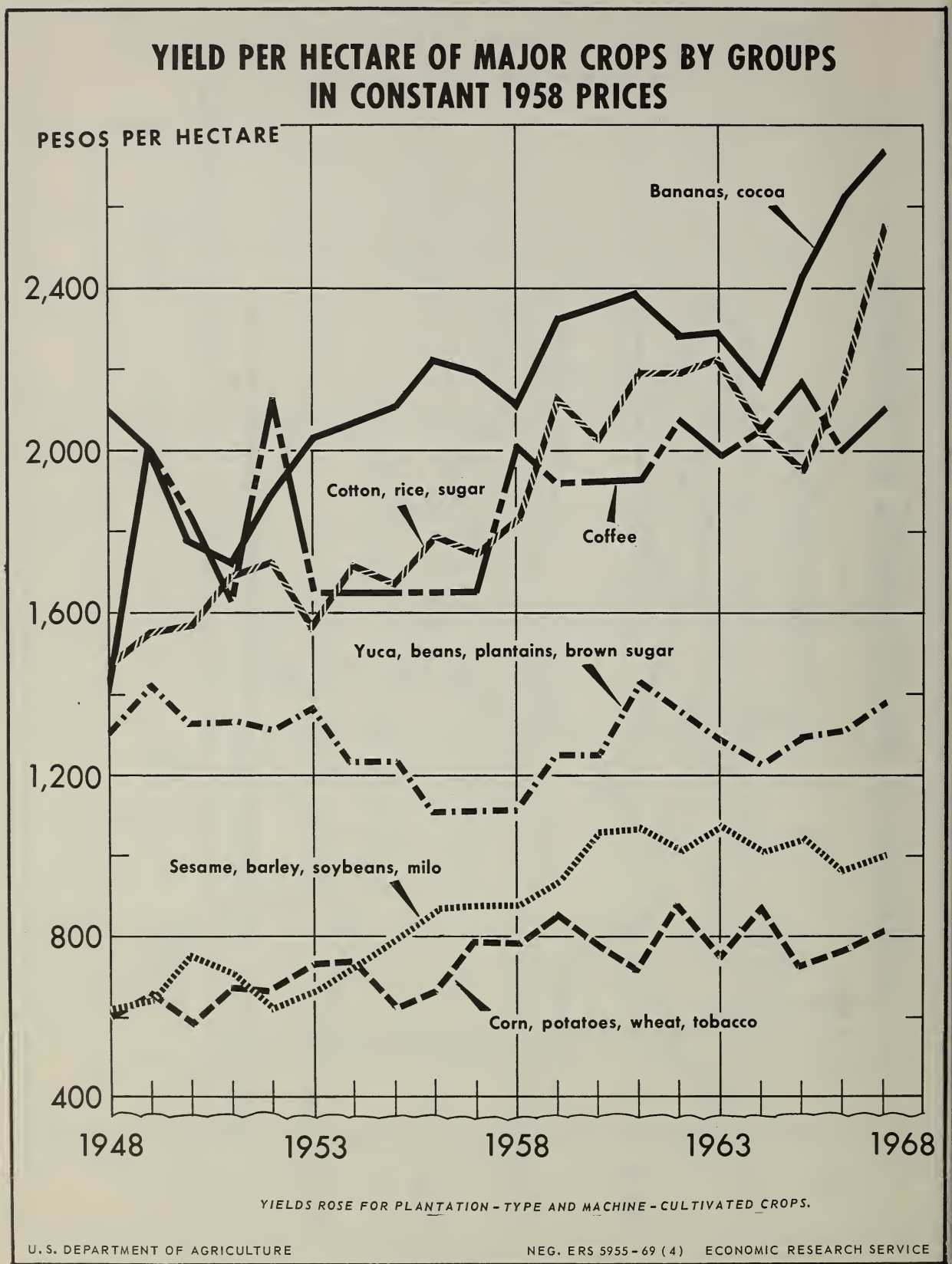
YIELD PER HECTARE OF MAJOR CROPS BY GROUPS
IN CONSTANT 1958 PRICES
PESOS PER HECTARE
2,400
2,000
1,600
1,200
800
400
1948
1953
1958
1963
1968
Bananas, cocoa
Cotton, rice, sugar
Coffee
Yuca, beans, plantains, brown sugar
Sesame, barley, soybeans, milo
Corn, potatoes, wheat, tobacco
YIELDS ROSE FOR PLANTATION-TYPE AND MACHINE-CULTIVATED CROPS.
U.S. DEPARTMENT OF AGRICULTURE
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FIGURE 6

As mentioned earlier, the extent of nontraditional culture and management of this group has increased, but primarily by new entrepreneurs who have never used traditional culture, tools, or organization. In other words, relatively modern patches have been added on to the traditional fabric without reducing the original. Often, the additional acreage is on land that was not cultivated previously.

Tabulations prepared by the central statistical agency (DANE) from the 1965 sample census make possible a comparison with the census data of 1959. The preliminary results of this comparison together with the census of population estimates for 1964 suggest that the number of very small farmers producing these crops has not been reduced. Nor has there been a strong tendency for the small farm to increase in size to small family units or to increase in acreage of cultivated land to the intermediate range of 10 to 50 hectares.

The principal increase in acreage of these crops is on farms larger than 50 hectares, especially those larger than 100 hectares. Thus, although gross averages may suggest a transition to improved cultivation, there seems to be a strong dualism developing, with the small farms not getting any larger, not becoming fewer, and apparently making quite slow progress in substituting improved practices for traditional methods. Meanwhile, the relatively modern sector is increasing in importance on a small number of large farms.

For group 3 as a whole (corn, potatoes, wheat, and tobacco), production has shown considerable variation but not any distinct upward or downward tendency since the early 1950's, although production has been almost consistently higher than in the first few years (1948-51) of the period. The amount of acreage has likewise fluctuated through a considerable range without showing any clearcut upward or downward trend. Acreage was unusually low from 1957 through 1963 but advanced strongly in 1964 and 1965.

Most of the variation in acreage has been in corn, which is the dominant crop in the group in terms of acreage. Potato acreage showed an irregular but pronounced upward trend during the period 1948-67.[5] Wheat acreage rose during the early part of the period, reaching a peak of over 200,000 hectares in 1954 and 1955, but declined since then, falling nearly 50 percent by 1966.

Average yield of the group showed only a small increase during the 20-year period. There was no upward trend in corn yields; for potatoes, there was a moderate rise in the early part of the period and some decline in recent years. Both wheat and tobacco have shown strong increases in yield, reaching high points around 1960-62 at about twice the yields at the beginning of the period. Yields of tobacco have been a little lower in recent years. The varied yield performance of the crops in group 3 suggests mixed technology.

Corn, the one crop grown throughout Colombia, with acreage larger than coffee, still is principally a subsistence crop, but some large farms growing corn use modern technology. In 1959, plantings of 20 hectares or more accounted for 15 percent of the corn acreage cultivated. The average per farm was 1.6 hectares, smaller even than the average area in coffee.[6]

Much research has been done on corn. New varieties, both hybrid and open pollenated, give high yields and respond well to fertilization and good cultivation that includes control of weeds. But these practices are not widespread. Acreage planted with improved seed reached 10 percent of the total corn acreage by 1962 and then advanced rather slowly to 15 percent by 1966; however, there was a sharp expansion in 1967.[7]

There are few large fields planted with corn and few commercial farms that specialize in corn production. Commercial farms using improved seed and relatively modern cultural practices, except fertilization, are chiefly in the Cauca Valley, where yields are estimated to be twice as high as the national average. However, these exceptional farms are obtaining yields that are far below the "practicable" expectations referred to below. So far, acreage on which improved technology is used is not large enough to have much effect on the total for the nation, although modernized production is becoming more significant and is expanding.

Average yields have stagnated at approximately a thousand kilograms per hectare (16 bushels per acre), despite yields of four to seven times as much on commercial farms. This low average is only a little above that described by the Rockefeller Foundation as the final plateau obtainable from acreage that was traditionally cultivated for many years without any attention to soil management.[8] Corn, then, exhibits the great gap between experimental and average yields. A corn specialist of the Rockefeller Foundation working with

[5] There is an alternate series that has been widely used. It shows a strong advance in potato yields in 1961 and 1962, and a large decline in acreage in the past several years.

[6] Guerra, G., *Economic Aspects for Corn and Milo in Colombia,* Medellin, Colombia, July 1966, pp. 19-20. Calculations based on DANE, Resumen Nacional, Bogota, 1964, p. 47 and 49 (adapted).

[7] Unpublished tabulations of the agricultural credit bank (Caja Agraria).

[8] Stakman, Bradfield and Mangeldorf, *Campaign Against Hunger,* Belknap Press of Harvard Univ. Press, Cambridge, Mass., 1967, p. 135.

the Colombian agricultural experiment station (ICA) has said that yields of a hundred bushels per acre for each semester of the year, i.e., two hundred bushels per acre, are now feasible, practicable, and soon expected on a commercial basis in the extensive, excellent soil of the Cauca Valley.

Potato production is a little more "mixed" in the sense that each of the three types of cultivation strictly by hand (with hoes), with oxen, and with tractor–is important. It is the nearest to qualifying as "transitional": the whole range of cultivation from the most primitive to the most modern is used, and farmers on all sizes of farms are now using nontraditional inputs–i.e., chemical fertilizers and sprays to control diseases, pests, and blights. Mechanized cultivation of potatoes has developed in the past 20 years and is used on an increasing proportion of the total acreage.

Potatoes are primarily a cash crop, even in the remote hills. Diseases and blights have become worse in recent years, with potatoes a demand crop in terms of nutrients. In fact, yields of potatoes are so miserably low without the use of commercial fertilizers and sprays that it is not practical to do without these inputs. This is especially true for sprays, without which yields are likely to fall below the amount of seed planted. Accordingly, even remote areas use fertilizers and sprays, and because potatoes are a cash crop financing for these inputs can usually be arranged, either by the Caja Agraria or merchants selling the inputs.[9]

Available statistics (and they may be the most contradictory of all those on principal crops) suggest that yields are relatively high in mechanized areas of the Sabana de Bogota and are lower in the hills. Average yields have not increased in recent years.

Tobacco is principally produced by very small farmers using hand cultivation generally on a share basis on rented land. Fertilizers are widely used, even on small plots, although the general level of technology is not high. A small group of rather large-scale farmers in a compact area is growing a different type of tobacco (rubio) with a relatively high level of technology. So far, such production is no more than one-tenth of the total.

Wheat is also very much a "mixed" crop from a technological standpoint, with strictly hand cultivation (with hoes), oxen, and tractors all used to a significant degree. A survey in 1958 estimated that one-third of the wheat acreage was mechanized, i.e., tractors were used to plow the land in preparation for seeding by hand.[10] The proportion mechanized varied from 24 percent in Narino to 34 percent in Boyaca and 36 percent in Cundinamarca, the three principal wheat-producing States.

Over a long period, improved wheat varieties were developed in an intensive research program. The improved seeds have been distributed principally by the Caja Agraria. By 1959, Caja seeds sales were sufficient to plant 30,000 hectares, about one-fifth of the planted acreage. Seed sales declined in subsequent years, but began to increase again in 1966. In 1967, they were large enough to seed 37,000 hectares, or about half of the seeded acreage, which was reduced in that year. Also, the value of commercial fertilizer is widely recognized and this input is often used, but at rates well below those recommended.[11] Mention has already been made that yields of wheat per acre showed a strong rise up to about 1960 but have changed little in subsequent years.

The wheat situation in Colombia contains a number of paradoxes. Despite good experimental development and Government programs to expand production, both acreage and output have declined sharply in recent years. (The support program has not been pursued vigorously and has not provided firm, attractive, forward prices for producers.) Wheat is widely cultivated in the cool regions, but is not often a major source of income for the farmer. It is quite a minor crop in terms of acreage cultivated (perhaps 3 percent of the total) and farm income (2 percent of the total from crops), but it is a major import. Since there are five other widely consumed starches that are close nutritional substitutes, wheat has been referred to as not really indispensable for consumers.[12] Yet, it is a "preferred" food as far as consumers are concerned, and per capita consumption is increasing at the expense of other starches, except rice.

Wheat is competitive with barley in the cool regions where soils are suitable for both crops, and it is perhaps competitive with potatoes, although far higher gross returns per acre (from six to 10 times) and much higher labor requirements for the latter would seem to limit the competition.

Barley production has developed so successfully with relatively modern technology as to merit its classification in group 5. It has benefited from nearly complete adoption of improved seeds, greater availability of mechanized equipment, and an effective price

[9] Many of the small producers grow other crops, such as corn and various types of beans, peas, and lentils, but principally for home consumption, using strictly traditional inputs.

[10] Adams, Guerra, et. al., *Public Law 480 and Colombia's Economic Development,* Medellin, Colombia, Mar. 1964, p. 182, on a study by Anibal Torres of Instituto de Investigaciones Tecnologicas (IIT).

[11] Ibid., p. 183.

[12] Ibid., p. 173.

support program carried out by the private sector. Expansion in barley acreage, however, has been small, but yields doubled in the decade following 1950. In recent years, barley yields have been twice as high as those for wheat, which is a higher ratio than in the United States, and gross value per hectare of barley has exceeded that for wheat, both at prices received in Colombia and at world prices.

The Wheat Problem and Alternative Solutions

A sound and successful experimental program developed well-adapted varieties of wheat which attained high yields with recommended practices. However, an announced program to expand wheat production was limited in scope and effectiveness in comparison with a broader program for barley, a competing crop.

Interpretation of the unsuccessful effort to expand wheat in the past several years has important policy implications for Colombian agriculture, but facts at hand do not permit an interpretation at this time. However, two hypotheses may be considered. One is that the program to encourage wheat production was not pursued with sufficient vigor. Since good yields have been attained both experimentally and commercially with modern, improved practices, what is needed is a more intensive program with effective and credible forward prices, as well as direct attention given to the supply and utilization of nontraditional inputs. The second hypothesis stresses the limited supply of land adapted to wheat and competing crops, some of which have to be imported, and more of which will have to be if wheat is expanded. It may be more appropriate to permit expansion of the competing crops which are alleged to be better adapted and more profitable. The choice between these alternatives depends on interpretation of past developments. However, a compromise could be made through a vigorous program increasing yields per acre and perhaps increasing cultivated acreage of the crops in cool climates.

A new program to expand wheat production was launched in 1968 with more favorable support prices than earlier and with other inducements, including priority of credit (more distribution of improved seeds and more technical assistance).

Group 4: Plantation-Type Crops

Plantation-type crops in Colombia are represented chiefly by bananas and cocoa. Also, a new expansion in African palm for oil has been launched. Cocoa has had very limited acreage in Colombia. From 1948 to 1961, acreage was stable at a little over 30,000 hectares, but there has been a gradual expansion in recent years. Yields have shown a general rise for the period as a whole. A program by the Cacaoteros to expand cocoa production to meet domestic requirements has been formulated. The association reports that with modern technology and commercial-size plantations cocoa production can be very profitable.

The total acreage in bananas has expanded gradually from an estimated 40,000 hectares in 1948 to 58,000 in recent years. Like sugarcane, bananas are produced under two contrasting types of culture. The greater part of the acreage is on small plots of strictly traditional production primarily for home use. Such patches occur on most farms throughout the warm climate areas. The remaining acreage yields bananas for export and is on plantations using nontraditional inputs. The discussion that follows is concerned with the plantation crop.

With severe disease problems, which have come in waves, yields have been stationary, as shifts occurred in the varieties used and, in recent years, in areas cultivated. The principal banana plantation area south of Santa Marta has been declining, and a new area in the Uraba Valley region has developed.[13] The new area represents a different organization from the former fruit company plantations. One company has developed the new area but not as a company farm. It does not own the farms that grow bananas, but acts as marketing agent and technical adviser to 260 privately owned farms. It has arranged for credit from a U.S. bank, provided guaranteed minimum prices, and lent assistance in improving quality.

The difference in price between first-quality bananas and second quality in the European market is such that a very high proportion of the crop must grade first quality or the whole enterprise will fail. Thus, a high level of technology is necessary for survival in the banana export market. This would be in sharp contrast to the generally low level of technology that prevails in the production and marketing of most farm products in Colombia.

Group 5: Mechanized Crops

During the period from 1948-50 to 1967, production of all major crops for which statistics are available increased a little more than 50 percent, from $3 billion to $5.3 billion (in 1958 prices). More than half of the rise occurred in group 5, and at the end of the period the value of output for this group was nearly one-third of

[13] American Embassy Report of the Agricultural Attache, Agriculture 9, Bogota, Aug. 16, 1967. This is the principal source of the information that follows on bananas.

the total for the 16 major crops, and about equal to that of coffee production.

The value of output in constant pesos of 1958 for group 5 rose from an average of 330 million in 1948-50 to 1.6 billion in 1967, an advance of fivefold during the 18-year period. The advance was not steady and sustained, however, throughout the period. Production rose strongly from 1948 to 1954, leveled off through 1957, and then turned upward in 1958 and advanced strongly, but irregularly, through 1967.

Most of the rise in crop production reflected an increase in acreage, even in group 5, the most modern and progressive in Colombia. The expansion trend for this group was evident throughout the two decades. In each decade, acreage doubled, resulting in an expansion from 200,000 hectares in 1948 to 800,000 hectares in 1967. Yields showed a general rise during the first decade, and after a sharp advance at the end of the decade (in 1959) they subsequently fluctuated around 700,000 hectares.

Yields of both cotton and rice were relatively high throughout the latter decade. A considerable portion of the cotton acreage and cultivators shifted from a fertile valley in the northwest near the coast, where yields had been high but were declining while rents were increasing, to a new area in the northwest (Valledupar) not previously cropped, where yields were moderately lower, rents were lower, and pests and diseases less common. Little fertilizer was used for cotton. Rice yields declined slightly for several years as nonirrigated acreage expanded more rapidly than irrigated areas, although a significant start was made in fertilizer usage. Yields advanced in 1967 and again in 1968 (preliminary).

Sugarcane yields in Colombia are not high in comparison with other countries, but they have shown a strong advance, about doubling since 1948-50.

One of the striking changes over the past several years has been the expansion in acreage of these crops as a group on farms larger than 50 hectares. Since hand cultivation is limited to 2 or 3 hectares, and cultivation with oxen only twice that, the expansion in acreage has been in that cultivated by tractor.[14]

LIVESTOCK AND LIVESTOCK PRODUCTS

Production of livestock and livestock products has expanded at a slightly faster rate than crop production in the past 20 years, and somewhat above the rate of growth in population. The average rate represents relatively rapid growth for milk, poultry, and eggs and rather slow expansion for other animal products—beef, pork, mutton, and wool.

Expansion in Fluid Milk

Milk production increased at a rate fractionally above that of population during the period 1950-67. A series of data that has been pieced together from different sources indicates that production increased rather rapidly for a few years between 1955 and 1959 and then was nearly stationary through 1962. At the beginning of the period and in the last 5 years, production about kept pace with population growth.

For 1954 to date, estimates are available for fluid milk consumption.[15] These show a more rapid rate of expansion for fluid milk than for total milk production. In recent years, a little more than half of the estimated milk production has been used for fluid purpose, about one-third of which is pasteurized. About 5 percent is used in commercial production of butter and cheese, and about 40 percent is used on farms, including that in production of homemade cheese and butter, part of which is marketed.

Near the large cities, there are some large modern dairy farms. Only a very few of them use feed concentrates, since the price of feed is high and the price of milk is low. Dependence on pasture for almost all of the feed for dairy cows—since there is little silage and less hay—results in serious seasonal variation in milk production, with a shortage in the dry season. European dairy breeds—mainly Holstein—are the rule in the cool regions and especially in the Sabana de Bogota. In the Coastal region and in the Eastern Llanos, most of the milk is obtained from dual-purpose cows in a manner that is rather casual, as described below:

> Beef calves running with their mothers on these farms sometimes find that they must compete with city consumers for the available milk supply. Location advantage rests with the calves, but once a day their mothers are tied to

[14] The Comision Economica para America Latina machinery study published in 1951 uses a maximum of 9.3 hectares for oxen, quoted in "El Uso de la Maquinaria Agricola en Colombia," Naciones Unidas, CEPAL, Aug. 1967, p. 7.

[15] Estimates of milk production and distribution are mainly from a private milk distribution firm, CICOLAC (Compania Colombiana de Alimentos Lacteos).

a fence rail during the months of peak production, when a liter or more of milk may be available above the amount consumed by the calves.[16]

It seems significant, however, that the price of milk in Colombia, which is high enough to encourage production, is only about one-half that in the United States.

Rise in Poultry and Eggs

Both poultry and egg productions have been mentioned as areas in which modern technology has recently been introduced and is contributing to a growing proportion of total output. As might be expected, there is a strong dualism between the traditional small flocks of poultry, often of 15 to 20 hens, and the modern broiler and egg installations of several thousand birds.

Output of poultry and eggs was stationary in the first half of the period under review. Since 1958, production has expanded each year, not quite doubling in the 9 years up to 1967. The increase in recent years has made production per capita moderately higher than in 1950.

Decline in Pork Production

Production of meat other than beef is rather small in Colombia and, except for poultry, is showing little or no expansion. Hog slaughter increased moderately during the first part of the period, reaching a peak in 1961. After that, slaughter declined through 1965, but was reported higher in 1966 and 1967, although still below that attained in 1961. The relative importance of pork in the meat supply is suggested by the fact that the number of hogs reported slaughtered in 1967 was about one-half the number of cattle slaughtered.

Nevertheless, considerable research and development effort is being expended on hogs. Improved breeds have been imported, and a few large farms are expanding the number of purebreds and crosses while experimenting with various starchy feeds. The feeds have high yields per acre even under traditional cultivation, and improved varieties are reported to show good response when fertilized. The Colombian agricultural experiment station (ICA) is conducting extensive hog-feeding trials using local starchy roots and tubers. So far, the great potential of these feeds has been evinced only on an experimental level.

[16] Public Law 480, p. 271.

Mutton and Wool—Minor Products

Mutton production is quite small and is not increasing in Colombia. A program is being tried to import improved breeds of sheep for the high Andean meadows, which are little utilized. The native breeds of sheep (Criolla) do not produce apparel grade wool, only carpet grade.

Cycles in Cattle Slaughter and Prices

Beef is the primary meat produced in Colombia. Cattle ranches occupy three-fourths of the agricultural land, including much of the potentially productive acreage, as well as the least productive and most remote acreage. The level of technology on ranches is generally low. Although Colombian meat is priced somewhat below average prices in importing countries, it has received low market grades in Europe. With much land not fully utilized in relation to stocking capacity, the possibility of exporting beef in substantial quantities is an important part of the plan to increase exports, an essential ingredient in Colombia's development plan for the next few years.

The number of cattle in Colombia is variously estimated from 15 to 18 million, or not much different from the human population, which in the past has grown more rapidly. Prospects for more rapid growth in cattle numbers in the immediate future have been improved by the extension of credit from international agencies to cattlemen through the livestock bank (Banco Ganadero). A vigorous program of expansion might result in reduction in slaughter at first. This is sometimes used to explain the curtailment in cattle slaughter in 1966, 1967 and the first few months of 1968. In contrast to statistics on cattle population, which have a wide range of uncertainty, cattle slaughter statistics are among the most reliable of the Colombian series.

Controlled cattle slaughter is taxed by the municipalities or local governing unit, and statistics are collected regularly and published by the central statistical agency (DANE). Uncontrolled slaughter is estimated to be 10 percent as large as that controlled, and contraband shipments about 5 percent as large.

An attempt was made to obtain a statistical demand curve for beef by relating controlled slaughter per capita to the deflated price received for beef cattle sent to slaughter. The hypothesis was that the price received each year depended on the per capita slaughter. This assumed that the volume of slaughter in any year was not affected by the price received in that year or in earlier years.

The results of the regression calculation are shown in figure 7. The fit was moderately good ($R^2 = 0.88$), and in comparison with other price-quantity relationships for Colombian commodities the fit was quite good (even phenomenal). The equation fitted was a linear relationship of the logarithms of the data, which is tantamount to assuming a constant elasticity of demand. Through the range of the data used in the regression, there is no clear evidence of any tendency of the elasticity to change as slaughter varies. Another implicit assumption in such a demand elasticity calculation is that real income per capita does not change, an assumption which has been fulfilled (only too well). The price received for livestock was deflated by the implicit price deflators for gross domestic product.

The data show a range in slaughter from more than 0.12 head per capita in 1950 and 1951 to less than 0.10 in 1960 and in 1967, and a range in the corresponding deflated prices (in 1958 pesos) from 500 to 800 pesos per head. Per capita slaughter reached a high point in 1963 and 1964, declined considerably in 1965 accompanied by a price advance, and declined again in 1966 with more price advance. In 1967, per capita slaughter was a little lower than the year before and prices a bit higher. It is remarkable that per capita slaughter was at its lowest point (in 1967) for the 18-year period, while the deflated price was in the same range as in some other years (1954, 1955, 1959, and 1961) when slaughter was higher. The deviation from the average price-quantity relationship (the regression line) was the largest of the entire period, and the reason that price did not rise more is not clear.

In this simple price-quantity relationship, price elasticity of demand is appreciably less than unity (-0.70), i.e., is moderately inelastic. Thus, each 10-percent change in per capita slaughter has been accompanied by an average inverse change of nearly 15 percent in price received. The implication of this relationship is that a substantial increase in per capita slaughter would need to be accompanied by increased exportation for gross income from the sale of cattle to increase. On the other hand, per capita slaughter has been declining in recent years, perhaps because of the early phase in herd building, and is now at a low point with poor prospects for much increase in the immediate future.

Production will have to expand more rapidly than in the past to avoid further price rise accompanying reduced supplies of meat per capita, and to avoid the likelihood of an embargo on exports or their automatic cessation following an advance in Colombian livestock prices to the price level of importing countries.

TECHNOLOGY

The transformation of agriculture from traditional producing units to modern, productive farm enterprises using nontraditional inputs has proved to be a difficult and complex undertaking in Colombia, as well as in other developing countries. This section presents the Colombian situation with respect to three unresolved issues in agricultural development. The first is how to provide adequate power for small farms. The second is the role of labor-saving and capital-saving practices in a country that has an excess of labor and an acute shortage of capital. The third is the extent to which advanced agricultural technology developed in other countries is transferable.

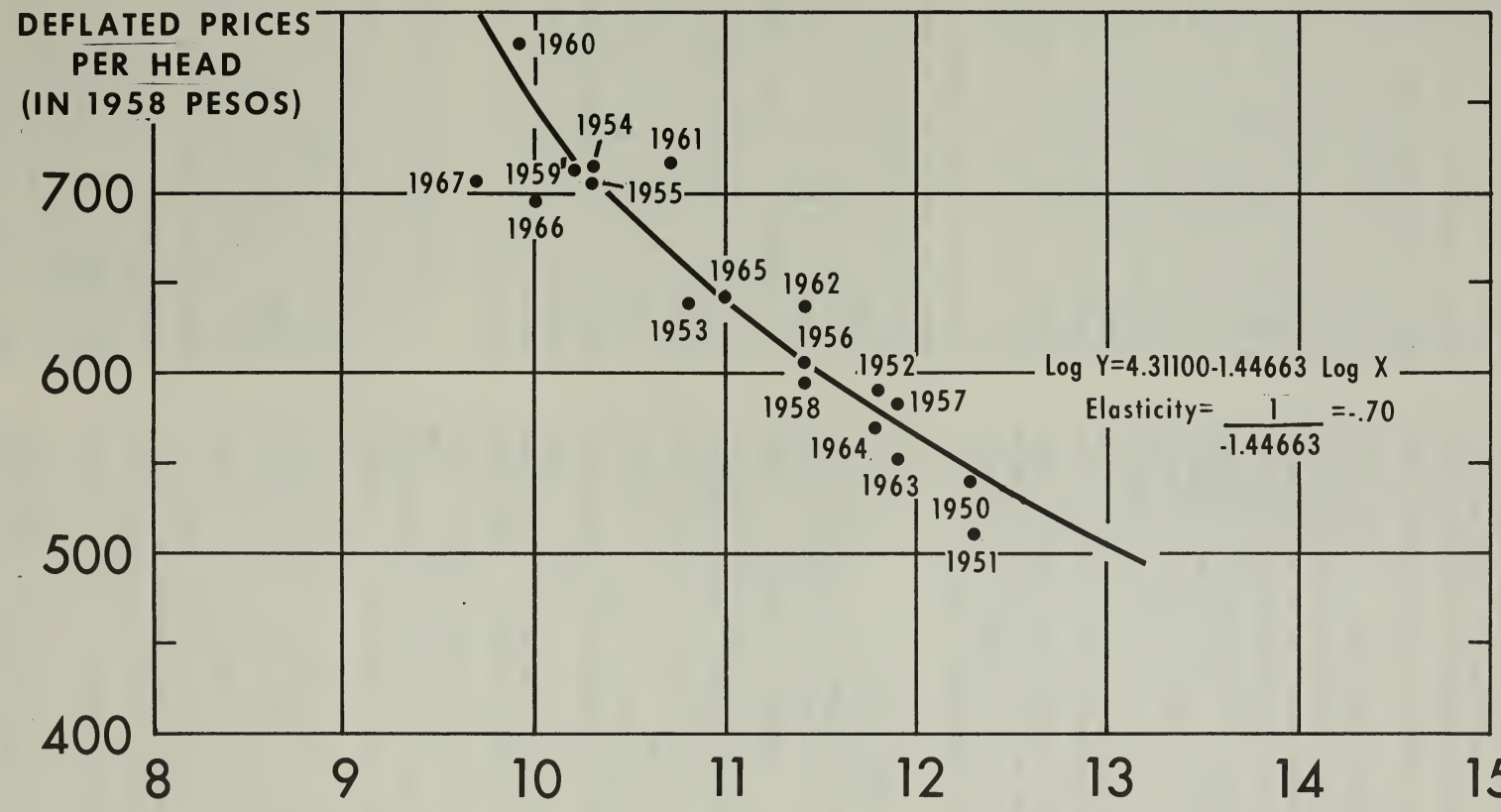
Size of Farm and the Farm Power Problem

In Colombia, preparation of the soil, planting, and cultivation of crops are done either with primitive hand tools, sometimes supplemented by plowing with oxen and a crude plow, or with tractors.

The gap between the 2 to 3 hectares of field crops, which is the practical maximum that can be cultivated without mechanical power, and the much larger acreage which is necessary to make economical use of a tractor is a very broad one. The possibility of using many oxen for land preparation and thus extending the size of cultivated acreage much beyond the 5-hectare limit has not been tried on any extensive scale in Colombia, and indeed does not seem very promising. The rapid improvement in the productivity, the flexibility, and the adaptability of the tractor over the years without comparable advance in plowing and cultivation with oxen has widened the advantage of mechanical cultivation. (Some preliminary calculations based on recent information for costs of land preparation by oxen and by tractor suggest that oxen may not be competitive on land that is suitable for mechanical cultivation. The possibility of the use of horses and mules will not be considered, for the time being, principally because the possibility seems remote for Colombia.)

Another possibility for breaking the 5-hectare limit is to use one tractor for several farms. This may be accomplished by cooperative ownership, intervention of a government agency, or individual small farmers buying

RELATION BETWEEN PRICES AND SLAUGHTER OF BEEF CATTLE



CHANGES OF 10 PERCENT IN PER CAPITA SLAUGHTER WERE ACCOMPANIED BY CHANGES IN THE OPPOSITE DIRECTION OF 15PERCENT IN PRICE.

U. S. DEPARTMENT OF AGRICULTURE NEG. ERS 5952-69 (4) ECONOMIC RESEARCH SERVICE

FIGURE 7

a tractor and engaging in customwork, with or without special assistance, such as credit by a public or quasi-public agency. The customwork arrangement is the simplest and is of some significance in Colombia, but the joint use of extensive mechanical equipment is also being tried in some projects by the Colombian land reform agency (INCORA).

A final possibility for extending acreage is the development of a small two-wheel tractor for use on small farms and steep slopes. The agricultural experiment station has demonstrated a prototype, or experimental model, that could be manufactured in Colombia.

Of course, changing a small traditional farm to a larger enterprise with nontraditional inputs is a complicated transformation. Reference is made here only to power used for preparing land, principally because this appears to be a bottleneck limiting farms to very small-size operations. Improved seed, fertilizer, pesticides, and herbicides are other nontraditional inputs and are clearly complementary, with their joint use reenforcing the trend toward higher yields.

Farmwork Animals and Tractors

During the past two decades, mechanical power has become important on Colombian farms, while there has been a decline in the number of work animals. In 1965, there were about one million horses, 380,000 mules, and 300,000 asses or burros on farms.[17] Between 1955 and 1965, the number of horses and mules declined about one-third, and the number of burros remained about stable. The relative importance of various types of power used on farms can be shown from the census data of 1960. Of a total 1.2 million farms, a little less than 4 percent (45,000) had some mechanical power; a little less than 1 percent (8,130) had tractors, averaging nearly two tractors per farm, or 15,360 tractors in all. Approximately 30 percent (350,000) of the farms had some form of work animal or beast of burden, and 65 percent (782,000) possessed only the power provided by human muscles.

The 1.6 million horses, mules, and burros are not used for plowing and cultivating to any significant extent in Colombia. These functions are performed by hand or with the aid of oxen or a tractor. The most common hand tool is a short-handled, but heavy eye-hoe (azadon) with an acute angle between the handle and the blade. In some sections of the country, a yoke of oxen pulls a primitive plow (chuzo) as the initial operation prior to planting with hand tools, which more adequately prepare the soil for planting. There are no statistics available that indicate the changing importance of these two types of nonmechanical cultivation. The natural assumption that they are declining is probably (but not obviously) correct. However, a rather large number of farmers who are homesteading rather sizable farms (averaging 50 hectares) in three separate settlement areas in the piedmont areas between the Eastern Cordillera and the edge of the Llanos Orientales are cultivating almost wholly with hand tools. On the one hand, the number of farmers without mechanical power is increasing, but, on the other hand, customwork plowing with tractors is also increasing.

The number of tractors on farms began to become significant after World War II. Liberal imports for about a decade reflected high prices obtained for coffee and the use of foreign exchange reserves accumulated during the war. In 1960, of the estimated 15,380 agricultural tractors in use in Colombia, more than half were in the three States of Valle, Cundinamarca, and Tolima.[18] In Valle, the number of hectares of agricultural land adaptable for cultivation by tractor in relation to the number of tractors (54 hectares per tractor) was only a little higher than in the United States (44 hectares in 1964), and in Tolima (119 hectares) and Cundinamarca (123 hectares) about three times as high. For the country as a whole, the ratio (230 hectares per tractor) was about five times as high as in the United States. Available estimates of area harvested per tractor for all of Latin America are 389 hectares in 1955 and 197 hectares in 1964. This suggests that Colombia was considerably more mechanized than all of Latin America in 1955, but the nation's subsequent increase in tractors was less rapid, so that in 1964 its degree of mechanization was less than in all Latin America.[19]

Labor-Saving or Capital-Saving Practices

Since Colombia has a growing surplus of labor and a continuing shortage of capital, preference is accorded to capital-saving innovations. All of the nontraditional inputs, except farm machinery, meet this preference. In addition, the capital required for improved seeds has the advantage of a small foreign exchange component and does not require tariff protection for development of an

[17] Encuesta Agropecuaria Nacional, 1965, DANE (Departamento Administrativo Nacional de Estadistica). Data for 1955, 1960, and 1964 are also from DANE.

[18] CEPAL, "El Uso de la Maquinaria Agricola en Colombia," Aug. 1967, p. 12. This publication is the source of most of the material in this section. Caja Agraria estimated the number of agricultural tractors at 20,000 in 1963.

[19] The Colombian estimate is 280 hectares harvested per tractor in 1963, as compared with the Latin American average of 197 in 1964, ibid., p. 13.

infant industry. However, fertilizers and chemicals either have an important foreign exchange component or are accorded protection that raises their prices and reduces profitability (or both).

The case for tractors and mechanization is certainly less clear cut for Colombian agriculture. In the usual static sense, when tractors are substituted for oxen or hand cultivation, without any expansion in acreage, tractors are surely labor saving. Recent estimates by the United Nations indicate that as of 1963 tractors usually provided lower costs of production per hectare than oxen.[20] When allowance was made for yield differences, the advantage of using tractors was substantial, but direct interpretation was limited by the comparison of nonirrigated land (de secano), for manual cultivation, with irrigated land (de riego), for tractor cultivation. Despite the problems in the comparison, it was estimated that one man with an average-size tractor can plow and cultivate as much land as six to 10 men with 12 to 20 oxen.

Thus, a program of mechanization without expansion in acreage would displace workers in large numbers. Actually, few large fields in Colombia are cultivated by groups of men with oxen. In the past, the increase in tractors has been associated more with the expansion in acreage cultivated, especially that of cotton, rice, and sugarcane, than with the substitution for oxen and hand cultivation. A similar pattern seems probable for the future, but it should be borne in mind that on land well adapted to mechanization the cost per hectare for plowing is often cheaper with tractors than with oxen or hand tools. Also, the relative advantage of using tractors is growing, so that one would expect some substitution of tractors for oxen and hand tools, as well as expansion in acreage cultivated.

How Transferable Is Technology?

In the literature on transfer of technology in agriculture from the temperate to the tropical zones, there are two polar positions represented. One position is held by those concerned with the transfer of technology for industrial products. They stress the quality-control problem and the necessity for frequent innovations in design and style of manufactured products for successful competition in world markets. Such quality standards and flexibility for frequent change are quite difficult for developing countries to attain. So, supporters of this opinion advocate that a developing country could compete better and could more easily import modern technology in the production of farm products, where quality control is less demanding and there is little change in design and style of product.

The polar opinion is more common among agricultural economists. They feel one can often transfer a factory intact or duplicate one from a developed country and not have the problems due to changes in climate, length of day and angle of the sun, soil fertility, and response to varying treatments that affect agriculture and thus prevent direct shifts of technology. There are exceptions, of course, the most famous being the transfer of cotton technology from the United States to Mexico, but this was a short shift across the Rio Grande to similar land, with a transfer of the technology, the supplies, the financing, and the farmers—clearly a special situation.

In Colombia, rather complete shifts in technology have been made for cotton, irrigated rice, some minor crops, such as soybeans, sesame, and grain sorghums, and poultry and eggs. The shifts involved little adaptation and conscious development of new varieties or new production techniques, with the partial exception of rice, where adapted, more productive varieties have been developed. In some cases (cotton and sugarcane), the first attempt to transfer technology from abroad failed, as did sometimes the second and third attempts. In addition, special problems were encountered with diseases and pests, necessitating shifts in areas of cultivation. In general, the initial and subsequent shifts in technology were rather abrupt, with rapid expansion and declines in the various areas, which are rather widely separated.

One significant change in the production of all these crops which incurred some technological decline has been the reduced rate and frequent omission of fertilizer application. The precise reasons for this are not completely clear. Would fertilizer use be profitable under Colombian conditions and price relationships? Fertilizer prices are at least somewhat higher and effective product prices for cotton a little lower than in the United States. Much of the cotton and some of the rice are grown in fertile soils, often alluvial, which have only recently been brought into cultivation, so fairly good yields are still obtained without using fertilizers.

It is not certain how much the problems of availability and dependable quality of fertilizer affect its use. In addition, a high proportion of the cotton and rice acreage is rented by rather large operators, who appear to be especially sensitive to shifts in profitability. Does this type of tenure arrangement inhibit fertilizer use? Increased fertilizer use has been reported for rice in recent years but was of little importance for cotton before 1968. Yields of these two products have been good, by Colombian standards, far outstripping yields

[20] Ibid., p. 9.

obtained by traditional practices, and sometimes approaching those obtained in developed countries. However, in the last 6 to 10 years, yields of cotton and rice have shown only limited advancement, in contrast to the developed countries, where yields have shown a strong advancement.[21]

There is some evidence that the restriction on imports of nontraditional inputs (mainly fertilizer and chemicals), only partly offset by domestic production, has been a serious constraint on improving technology in recent years. Although prices of rice and cotton have been generally favorable and have had more effective price support than other commodities, a preliminary comparison suggests that prices of these two products have not risen more than those of other products. Instead, gross returns per hectare did increase with the adoption of modern technology several years ago. These crops are grown on a considerable part of the most productive land cultivated in Colombia, and in areas that are conspicuously well developed.

In the livestock and livestock products group, improved breeds from the temperate zones of developed countries have been introduced, but often production in Colombia has been disappointing. Poultry and eggs are outstanding exceptions, in that the introduction of improved breeds has been accompanied by high standards of production. Although total production is still at a low level, and traditional production from small flocks is still significant, modern broiler and egg production has been introduced, with the leadership taken by feed companies. Poultry specialists report that production efficiencies are equivalent to the best in the United States, with moderately higher feed costs offset by lower labor costs. Broiler prices are higher than in the United States, and poultry prices are higher than Colombia's beef prices, although the volume of production is still quite small. There seems to be ample room for considerable expansion in broilers, with gradual reduction in prices, but the difficulties of rapid expansion may be expected.

On the whole, then, Colombia has had considerable success in the past in importing modern technology for several crops and for poultry, often with rather small changes and adaptations. It does not follow, however, that modern technology can be as easily imported for other crops and livestock. In fact, there is considerable evidence that such is not the case, and that extensive development and adaptation will be required.

The experiences with both wheat and corn bear this out with considerable force. Both crops have received extensive research and development of a highly technical order, with results that have not been translated into wide use. High-yielding varieties of corn have been developed, and limited use of these has produced good yields on a commercial basis, especially in the fertile Cauca Valley, but they are not the rule even in that favorable region.

Experimental results and commercial trials, however, are reported to be promising, and they seem credible. The most notable is the development of an improved variety of high-lysine corn, the seed for which is being multiplied for commercial distribution. Research on wheat is continuing, and a new program to increase wheat production is being launched to reverse the decline in wheat production that persisted through 1967 and has made necessary the use of large quantities of scarce foreign exchange.

[21] Preliminary reports for 1968 indicate a strong advancement in yields following good harvests in 1967, so that there is a possibility yields may have advanced beyond the plateau which had prevailed previously.

APPENDIX

Statistical Note

Colombian agriculture does not have a set of official statistics or even statistics based on a more or less systematic or specified system of collection or reporting. DANE, the central statistical agency, has not yet been able to proceed with the task of collecting data on a regular basis and publishing estimates that have continuity and plausibility. In 1967, for the first time, DANE was able to obtain sample census estimates for each semester of crops planted and harvested. In 1968, various improvements in the questionnaires will make the results more comparable with those of the 1960 census.

Statistical estimates of agricultural production, acreage, and yield have been published by the agricultural credit bank (Caja Agraria) and IDEMA (Instituto de Mercadeo Agropecuario), which has responsibility for price support and supply of a broad range of farm products. In addition, estimates of specific commodities have been published by organizations representing producers of cotton, rice, tobacco, cocoa, sugar, and coffee. These statistics have been assembled and evaluated by the National Department of Planning (DAP) and the central bank (Banco de la Republica), as well as by various international agencies, such as the Food and Agricultural Organization and the Organization of American States.

With the help of the Agricultural Economics Department of the University of Valle, all available estimates were collected. From this collection of statistics, a provisional set of production estimates subject to periodic revision was obtained. It was important that these data be able to serve as background for an extended program of current yield estimates and for final estimates which would be used to extend the historical series. The various estimates for each commodity were analyzed, bringing to bear whatever additional information was available. The result was a preliminary set of internally consistent estimates of acreage, yield, and production of crops and production of livestock and livestock products. This preliminary set was circulated among the above mentioned agencies and others for criticism, suggestions, and revisions. Then the revised set shown below was prepared, making use of the suggested revisions.

The quality of the data varies with the information available, ranging from rather good for the commercial crops in group 5 and 5a and beef slaughter to rough judgments for subsistence crops of group 2 and some of those of group 3. Plantains, yuca, and corn fall in the latter group. Even when there is no great divergence in the estimates, the figure generally agreed on is not a basis for confidence. Also, there are special problems. For example, in the case of potatoes, there is general agreement on volume of production, but such great differences in estimates of acreage and yield that it is not clear whether potato production represents one of the most rapid technological advances or near stagnation in development, with fertilizers, sprays, and sometimes better seed merely preventing declines in yields.

The milk production estimate is based on adequate statistics for the portion sold for fluid milk consumption; the estimate that nearly as much is used for nonfluid purposes is less sound and may be too high.

It did not seem advisable to discuss the limitation and possibilities of each series. An appraisal of Colombian agricultural statistics and sources is available.[22] Many of the series are now available in one new volume.[23]

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[22] Inter-American Committee for Agricultural Development (CIDA), *Inventory of Information Basic to the Planning of Agricultural Development in Latin America, Colombia,* Washington, D.C., Pan American Union, 1964.

[23] Maria Elena Silva Perdomo, *Colombia, Estadisticas Agropecuarias, 1950-1966,* Seccion de Economia Agricola, Universidad del Valle e ICA, Cali, 1968.

Tabla 44.–Produccion agropecuaria: Valor a precios de 1958 de la produccion disponible para consumo alimenticio, 1950-67

Table 44.–Agricultural production: Value of production available for food consumption at 1958 prices, 1950-67

Tabla 45.–Produccion agropecuaria: Valor total y per capita a precios de 1958, 1950-67

Table 45.–Agricultural production: Total and per capita value at 1958 prices, 1950-67

Tabla 46.–Precios corrientes pagados al productor a nivel nacional, 1948-67 (3pp.)

Table 46.–Current prices paid to the producer, 1948-67 (3pp.)

Tabla 47.–Precios al agricultor deflactados por los precios implicitos del P.I.B., 1950-67 (3pp.)

Table 47.–Deflated prices paid to the producer–deflated by implicit prices of gross national product, 1950-67 (3pp.)

Tabla 1.--Cultivos mayores: Producción, Grupos 1 y 2, 1948-67
Table 1.--Major crops: Production, Groups 1 and 2, 1948-67

Año Year	Grupo 1 Group 1	Grupo 2 Group 2			
	Café Coffee	Yuca Yuca	Fríjol Beans	Plátano Plantains	Panela Sugar, noncentrífugal
	Tons				
1948	346,456	775,000	60,000	689,000	687,000
1949	368,903	841,500	55,837	961,940	714,000
1950	337,826	768,000	26,100	942,800	647,000
1951	302,256	870,000	50,000	940,000	625,000
1952	402,665	870,000	55,000	960,000	600,000
1953	384,302	870,000	52,000	986,700	610,000
1954	403,107	870,970	50,000	1,013,500	620,000
1955	377,108	674,000	68,600	1,048,900	650,000
1956	335,082	700,000	50,000	1,091,000	610,000
1957	365,154	700,000	71,585	1,100,000	550,000
1958	468,550	700,000	60,000	1,130,000	510,000
1959	462,000	720,000	60,000	1,220,000	550,000
1960	480,000	680,000	39,800	1,255,400	570,000
1961	450,012	650,000	44,181	1,275,000	774,000
1962	482,100	780,000	47,620	1,292,000	700,000
1963	450,000	800,000	43,900	1,309,000	650,000
1964	468,000	700,000	42,000	1,345,500	580,000
1965	492,000	800,000	40,000	1,383,900	560,000
1966	456,000	840,000	35,000	1,423,300	650,000
1967	477,000	850,000	38,000	1,590,400	680,000
1968 (P)	456,000	900,000	40,000	1,600,000	700,000

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 2.--Cultivos mayores: Producción, Grupo 3, 1948-67
Table 2.--Major crops: Production, Group 3, 1948-67

Año / Year	Grupo 3 / Group 3			
	Maíz / Corn	Papa / Potatoes	Trigo / Wheat	Tabaco / Tobacco
	Tons			
1948	635,000	486,500	118,380	19,820
1949	737,620	538,089	128,294	20,032
1950	620,300	360,000	102,000	20,400
1951	845,000	550,000	130,000	22,000
1952	928,000	600,000	140,000	21,100
1953	770,000	610,000	145,000	23,000
1954	750,000	650,000	146,000	25,322
1955	736,000	580,000	147,000	28,750
1956	748,000	623,500	140,000	36,691
1957	717,500	682,000	110,000	38,162
1958	822,700	565,500	140,000	38,398
1959	857,500	785,000	145,000	38,659
1960	865,680	653,300	142,000	24,859
1961	757,531	551,262	142,100	27,884
1962	753,913	871,500	162,000	38,213
1963	781,593	572,474	90,000	41,771
1964	968,060	866,744	85,000	41,395
1965	870,755	762,290	110,000	40,190
1966	850,000	760,000	125,000	44,250
1967	850,000	800,000	80,000	42,500
1968 (P)	845,000	900,000	125,000	42,000

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 3.--Cultivos mayores: Producción, Grupo 4, 1948-67
Table 3.--Major crops: Production, Group 4, 1948-67

Año Year	Grupo 4 Group 4	
	Banano Bananas	Cacao Cocoa
	Tons	
1948	229,000	11,200
1949	379,715	13,517
1950	373,800	8,400
1951	387,500	8,400
1952	399,600	11,100
1953	450,200	11,200
1954	465,700	11,300
1955	495,600	10,900
1956	517,900	11,300
1957	502,100	12,000
1958	509,100	11,700
1959	553,300	12,000
1960	557,100	13,500
1961	571,600	14,300
1962	519,100	15,000
1963	580,600	15,700
1964	559,600	16,400
1965	652,600	17,100
1966	721,300	17,800
1967	764,212	17,000
1968 (P)	770,000	18,000

Véase fuentes de información.
See sources of data.
(P) = Preliminary

Tabla 4.--Cultivos mayores: Producción, Grupo 5, 1948-67
Table 4.--Major crops: Production, Group 5, 1948-67

Año / Year	Grupo 5 / Group 5			
	Algodón-fibra / Cotton fiber	Semilla de algodón / Cottonseed	Arroz / Rice	Azúcar / Sugar
	Tons			
1948	6,080	12,480	167,800	115,830
1949	6,637	11,973	207,641	147,723
1950	8,473	13,498	241,000	156,455
1951	6,474	11,971	297,000	197,600
1952	10,567	18,000	328,500	196,768
1953	17,031	29,000	272,000	189,990
1954	27,884	48,000	294,850	240,706
1955	24,672	43,000	320,200	253,326
1956	22,529	39,000	342,500	261,355
1957	20,573	36,000	350,200	233,952
1958	25,880	45,000	380,450	263,605
1959	66,000	114,000	422,100	276,812
1960	66,900	115,000	450,000	328,827
1961	76,500	132,000	473,600	362,643
1962	82,300	142,000	585,000	401,872
1963	72,600	126,000	550,000	368,139
1964	66,000	114,300	600,000	427,601
1965	65,500	114,000	672,000	485,191
1966	88,000	125,000	680,000	537,365
1967	101,043	175,000	661,500	596,575
1968 (P)	122,000	202,000	783,950	665,000

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 5.--Cultivos mayores: Producción, Grupo 5A, 1948-67
Table 5.--Major crops: Production, Group 5A, 1948-67

Año Year	Grupo 5A Group 5A			
	Ajonjolí Sesame	Cebada Barley	Soya Soybeans	Sorgo Sorghum
	Tons			
1948	4,459	29,238	---	---
1949	7,635	51,078	---	---
1950	10,553	50,470	---	---
1951	7,866	56,200	---	---
1952	5,206	61,000	---	---
1953	5,689	79,000	---	---
1954	7,464	65,000	3,000	---
1955	11,200	52,000	4,000	---
1956	12,800	70,000	4,000	---
1957	15,400	60,000	4,000	---
1958	20,800	75,000	10,000	---
1959	18,000	101,000	14,000	---
1960	20,000	106,000	19,000	---
1961	22,000	99,390	20,000	---
1962	20,989	108,000	22,000	7,600
1963	37,278	117,587	30,000	12,100
1964	42,642	113,649	40,000	60,000
1965	58,590	90,000	50,000	70,000
1966	57,493	95,000	52,000	60,000
1967	35,000	95,200	80,000	90,000
1968 (P)	11,950	74,800	85,000	100,000

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 6.--Cultivos menores: Producción, 1950-67
Table 6.--Minor crops: Production, 1950-67

Año / Year	Ajos y cebollas / Garlic & onions	Arracacha / Arracacha	Arveja / Green peas	Caucho / Rubber	Copra / Copra	Coco verde / Green coconut	Fique / Sisal
	1,000 tons						
1950	23.4	110.0	9.4	0.2	5.0	32.8	13.5
1951	25.0	124.0	17.9	0.2	4.5	29.5	15.8
1952	25.0	124.0	19.8	0.4	4.2	27.6	16.9
1953	25.0	124.0	18.7	0.3	4.0	26.3	16.9
1954	25.0	124.0	17.9	0.3	3.2	21.0	17.2
1955	22.8	96.0	24.9	0.4	2.8	18.4	16.9
1956	24.0	100.0	17.9	0.5	2.2	14.4	16.6
1957	26.3	100.0	25.9	0.5	1.8	11.8	16.1
1958	26.3	100.0	21.6	0.5	1.5	9.8	18.0
1959	27.0	103.0	21.6	0.5	1.5	9.8	17.5
1960	27.8	106.0	22.2	0.5	1.5	9.8	18.8
1961	28.1	107.0	23.1	0.5	1.5	9.8	23.0
1962	29.2	111.0	23.6	0.5	1.5	9.8	24.5
1963	30.5	115.0	24.0	0.5	1.5	9.8	25.0
1964	31.8	117.0	24.7	0.5	1.5	9.8	26.6
1965	32.7	120.0	25.4	0.5	1.5	9.8	27.0
1966	33.8	123.0	26.1	0.5	1.5	9.8	28.0
1967	35.4	125.0	27.2	0.5	1.5	9.8	30.0

Véase fuentes de información.
See sources of data.

Continued--

Tabla 6.--Cultivos menores: Producción, 1950-67--Continuación
Table 6.--Minor crops: Production, 1950-67--Continued

Año / Year	Frutas varias / Various fruits	Hortalizas varias / Vegetables	Garbanzo, haba y lentejas / Chickpeas, lima beans, and lentils	Ñame / Yam	Maiz millo / Millet	Tomate / Tomatoes	Otros tubérculos / Other tubers
	1,000 tons						
1950	330.9	101.9	9.0	121.6	3.0	27.1	35.2
1951	326.0	100.0	17.2	137.0	4.1	26.7	39.7
1952	350.7	107.6	19.1	137.0	4.5	28.7	39.7
1953	381.5	117.0	18.1	137.0	4.3	31.2	39.7
1954	422.0	129.5	17.2	137.0	4.1	34.5	39.7
1955	418.4	128.4	23.9	106.1	3.7	34.2	30.7
1956	437.8	134.3	17.2	110.5	3.8	35.8	32.0
1957	441.8	135.5	25.0	110.5	3.5	36.1	32.0
1958	440.4	135.5	20.8	110.5	4.0	36.0	32.0
1959	451.0	138.4	20.8	113.8	3.2	36.9	33.0
1960	463.6	142.3	21.4	117.1	4.2	37.9	33.9
1961	470.0	144.3	22.3	118.2	4.3	38.5	34.3
1962	488.4	149.9	22.8	122.7	4.4	40.0	35.5
1963	502.0	154.1	23.2	126.0	4.5	41.1	36.5
1964	516.0	152.4	23.8	129.5	6.0	42.2	37.8
1965	530.7	162.9	24.5	133.2	7.0	43.4	38.7
1966	545.8	167.5	25.2	139.0	7.5	44.6	39.8
1967	562.3	173.2	27.1	141.0	8.5	46.2	41.3

Véase fuentes de información.
See sources of data.

Tabla 7.--Cultivos mayores: Superficie cultivada, Grupos 1 y 2, 1948-67
Table 7.--Major crops: Cultivated area, Groups 1 and 2, 1948-67

Año Year	Grupo 1 Group 1	Grupo 2 Group 2				
	Café Coffee	Yuca Yuca	Fríjol Beans	Plátano Plantains	Panela Sugar, non-centrífugal	Total
	Hectáreas Hectares					
1948	589,000	142,542	122,000	100,000	205,715	570,257
1949	656,000	154,772	94,430	120,415	213,138	582,755
1950	656,000	141,254	78,850	119,735	214,056	553,895
1951	660,000	160,000	83,000	119,000	217,959	579,959
1952	675,000	160,000	92,000	120,000	218,272	590,272
1953	831,000	154,000	85,000	120,000	214,868	573,868
1954	872,510	148,000	130,000	142,505	218,648	639,153
1955	816,233	144,000	124,000	154,659	219,880	642,539
1956	725,285	140,000	132,000	160,606	219,827	652,433
1957	790,376	140,000	132,000	168,531	219,796	660,327
1958	832,461	133,000	124,000	166,617	222,521	646,138
1959	858,705	125,000	100,000	179,887	221,021	625,908
1960	892,547	120,000	86,270	185,107	227,143	618,520
1961	831,466	115,000	82,000	187,444	231,020	615,464
1962	824,067	138,000	87,000	189,165	228,131	642,296
1963	809,963	142,000	75,122	191,626	252,065	660,813
1964	813,100	125,000	76,000	196,825	253,640	651,465
1965	812,000	142,000	76,000	170,536	245,694	634,230
1966	811,400	142,000	64,000	225,000	235,250	666,250
1967	810,550	144,000	69,000	230,000	233,725	676,725
1968 (P)	816,326	152,465	70,000	230,000	240,632	693,097

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 8.--Cultivos mayores: Superficie cultivada, Grupo 3, 1948-67
Table 8.--Major crops: Cultivated area, Group 3, 1948-67

Año Year	Grupo 3 Group 3				
	Maíz Corn	Papa Potatoes	Trigo Wheat	Tabaco Tobacco	Total
	Hectáreas Hectares				
1948	685,000	52,000	177,300	19,750	934,050
1949	707,180	58,000	180,670	17,880	963,730
1950	651,600	39,000	145,400	18,840	854,840
1951	768,000	56,000	174,150	20,000	1,018,150
1952	844,000	61,000	188,000	20,000	1,113,000
1953	700,000	58,000	175,000	18,000	951,000
1954	680,000	62,000	195,000	19,000	956,000
1955	830,479	56,200	182,000	17,354	1,086,033
1956	828,235	55,200	170,000	20,816	1,074,251
1957	623,997	60,700	178,000	22,053	884,750
1958	692,587	42,950	160,000	22,893	918,430
1959	720,732	62,500	166,000	22,100	971,332
1960	729,634	54,227	159,950	13,957	957,768
1961	710,830	48,541	160,000	13,534	932,905
1962	696,900	75,000	150,000	18,967	940,867
1963	688,760	68,896	113,000	21,945	892,601
1964	771,604	75,801	100,000	21,744	969,149
1965	868,867	66,500	120,000	25,450	1,080,817
1966	845,770	67,000	110,000	27,000	1,049,770
1967	790,000	79,000	68,000	23,000	960,000
1968 (P)	775,000	85,000	93,000	22,000	975,000

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 9.--Cultivos mayores: Superficie cultivada, Grupo 4, 1948-67
Table 9.--Major crops: Cultivated area, Group 4, 1948-67

Año Year	Grupo 4 Group 4		
	Banano Bananas	Cacao Cocoa	Total
	Hectáreas Hectares		
1948	40,000	33,280	73,280
1949	45,000	30,690	75,690
1950	40,000	31,730	71,730
1951	44,000	31,730	75,730
1952	44,000	32,000	76,000
1953	45,000	32,400	77,400
1954	45,000	32,900	77,900
1955	46,000	33,300	79,300
1956	45,000	33,600	78,600
1957	47,000	32,000	79,000
1958	50,000	32,000	82,000
1959	48,000	32,000	80,000
1960	50,000	32,000	82,000
1961	51,000	33,000	84,000
1962	49,000	34,000	83,000
1963	56,000	35,000	91,000
1964	58,000	37,000	95,000
1965	58,000	37,400	95,400
1966	58,000	38,000	96,000
1967	58,000	37,000	95,000
1968 (P)	58,000	39,216	97,216

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 10.--Cultivos mayores: Superficie cultivada, Grupo 5, 1948-67
Table 10.--Major crops: Cultivated area, Group 5, 1948-67

Año / Year	Grupo 5 / Group 5			
	Algodón / Cotton	Arroz / Rice	Caña para Azúcar / Cane for sugar	Total
	Hectáreas / Hectares			
1948	35,575	95,000	34,286	164,861
1949	28,075	120,000	44,184	192,259
1950	36,825	133,000	45,408	215,233
1951	39,700	145,000	50,612	235,312
1952	55,163	150,000	51,029	256,192
1953	67,080	153,000	49,490	269,570
1954	82,280	175,000	51,531	308,811
1955	84,050	188,000	53,173	325,223
1956	68,578	190,000	53,102	311,680
1957	63,000	190,000	53,061	306,061
1958	77,000	196,800	56,694	330,494
1959	131,371	205,800	54,694	391,865
1960	150,340	227,300	62,857	440,497
1961	150,000	237,100	62,755	449,855
1962	169,000	279,550	65,091	513,641
1963	141,119	254,000	64,934	460,053
1964	150,054	302,500	71,633	524,187
1965	148,000	374,750	80,510	603,260
1966	164,000	350,000	91,633	605,633
1967	174,454	290,700	89,600	554,754
1968(P)	204,000	265,700	99,880	569,580

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 11.--Cultivos mayores: Superficie cultivada, Grupo 5A, 1948-67
Table 11.--Major crops: Cultivated area, Group 5A, 1948-67

Año / Year	Grupo 5A / Group 5A				
	Ajonjolí / Sesame	Cebada / Barley	Soya / Soybeans	Sorgo / Sorghum	Total
	Hectáreas / Hectares				
1948	13,000	24,390	---	---	37,390
1949	16,000	45,225	---	---	61,225
1950	14,000	43,910	---	---	57,910
1951	14,000	47,000	---	---	61,000
1952	17,000	51,000	---	---	68,000
1953	17,000	62,900	---	---	79,900
1954	15,800	53,000	---	---	68,800
1955	18,000	43,000	---	---	61,000
1956	20,700	50,000	---	---	70,700
1957	18,900	48,000	---	---	66,900
1958	40,000	43,250	8,000	---	91,250
1959	30,000	60,500	11,000	---	101,500
1960	32,060	56,300	10,200	---	98,560
1961	35,166	48,140	13,500	---	96,806
1962	41,978	49,000	16,426	3,250	110,654
1963	55,000	58,000	18,517	5,400	136,917
1964	70,000	58,000	24,800	24,000	176,800
1965	85,000	46,080	29,670	30,000	190,750
1966	85,000	55,000	35,000	30,000	205,000
1967	54,000	61,000	48,000	40,000	203,000
1968 (P)	15,000	46,750	50,000	45,000	156,750

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 12.--Cultivos mayores: Rendimiento por hectárea, Grupos 1 y 2, 1948-67
Table 12.--Major crops: Yield per hectare, Groups 1 and 2, 1948-67

Año Year	Grupo 1 Group 1	Grupo 2 Group 2			
	Café Coffee	Yuca Yuca	Fríjol Beans	Plátano Plantains	Panela Sugar, noncentrífugal
	Kilogram per hectare				
1948	588	5,437	492	6,890	3,340
1949	562	5,437	591	7,989	3,350
1950	515	5,437	331	7,874	3,023
1951	458	5,438	602	7,899	2,868
1952	597	5,438	598	8,000	2,749
1953	462	5,649	612	8,223	2,839
1954	462	5,885	385	7,112	2,836
1955	462	4,681	553	6,782	2,956
1956	462	5,000	379	6,793	2,775
1957	462	5,000	542	6,527	2,502
1958	563	5,263	484	6,782	2,292
1959	538	5,760	600	6,782	2,488
1960	538	5,667	461	6,782	2,509
1961	541	5,652	539	6,802	3,350
1962	585	5,652	547	6,830	3,068
1963	556	5,634	584	6,831	2,579
1964	576	5,600	553	6,836	2,287
1965	606	5,634	526	8,115	2,279
1966	562	5,915	547	6,326	2,763
1967	588	5,903	551	6,915	2,909
1968 (P)	559	5,903	571	6,957	2,909

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 13.--Cultivos mayores: Rendimiento por hectárea, Grupo 3, 1948-67
Table 13.--Major crops: Yield per hectare, Group 3, 1948-67

Año / Year	Grupo 3 / Group 3			
	Maíz / Corn	Papa / Potatoes	Trigo / Wheat	Tabaco / Tobacco
	Kilogram per hectare			
1948	927	9,356	668	1,004
1949	1,043	9,277	710	1,120
1950	952	9,231	702	1,083
1951	1,100	9,821	746	1,100
1952	1,100	9,836	745	1,055
1953	1,100	10,517	829	1,278
1954	1,103	10,484	749	1,333
1955	886	10,320	808	1,657
1956	903	11,295	824	1,763
1957	1,150	11,236	618	1,730
1958	1,188	13,166	875	1,677
1959	1,190	12,560	873	1,749
1960	1,186	12,048	888	1,781
1961	1,066	11,357	888	2,060
1962	1,082	11,620	1,080	2,015
1963	1,135	8,309	796	1,903
1964	1,255	11,434	850	1,904
1965	1,002	11,463	917	1,579
1966	1,005	11,343	1,136	1,639
1967	1,076	10,127	1,176	1,848
1968 (P)	1,097	10,588	1,344	1,909

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 14.--Cultivos mayores: Rendimiento por hectárea, Grupo 4, 1948-67
Table 14.--Major crops: Yield per hectare, Group 4, 1948-67

Año / Year	Grupo 4 / Group 4	
	Banano / Bananas	Cacao / Cocoa
	Kilogram per hectare	
1948	5,725	337
1949	8,438	440
1950	9,345	265
1951	8,807	265
1952	9,082	347
1953	10,004	346
1954	10,349	343
1955	10,774	327
1956	10,509	336
1957	10,683	375
1958	10,182	366
1959	11,527	375
1960	11,142	422
1961	11,208	433
1962	10,594	441
1963	10,368	449
1964	9,648	443
1965	11,252	457
1966	12,436	468
1967	13,176	459
1968 (P)	13,276	459

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 15.--Cultivos mayores: Rendimiento por hectárea, Grupo 5, 1948-67
Table 15.--Major crops: Yield per hectare, Group 5, 1948-67

Año / Year	Grupo 5 / Group 5			
	Algodón fibra / Cotton fiber	Algodón semilla / Cottonseed	Arroz / Rice	Azúcar / Sugar
	Kilogram per hectare			
1948	171	351	1,766	3,378
1949	236	426	1,730	3,343
1950	230	367	1,812	3,446
1951	163	302	2,048	3,904
1952	192	326	2,190	3,856
1953	254	432	1,778	3,839
1954	339	583	1,685	4,671
1955	294	512	1,703	4,764
1956	329	569	1,803	4,922
1957	327	571	1,843	4,409
1958	336	584	1,933	4,650
1959	502	868	2,051	5,061
1960	445	765	1,980	5,231
1961	510	880	1,997	5,779
1962	487	840	2,093	6,174
1963	514	893	2,165	5,669
1964	440	762	1,983	5,969
1965	443	770	1,793	6,026
1966	537	762	1,943	5,864
1967	579	1,003	2,276	6,658
1968 (P)	598	990	2,951	6,658

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 16.--Cultivos mayores: Rendimiento por hectárea, Grupo 5A, 1948-67
Table 16.--Major crops: Yield per hectare, Group 5A, 1948-67

Año / Year	Grupo 5A / Group 5A			
	Ajonjolí / Sesame	Cebada / Barley	Soya / Soybeans	Sorgo / Sorghum
	Kilogram per hectare			
1948	343	1,199	---	---
1949	477	1,129	---	---
1950	754	1,149	---	---
1951	562	1,196	---	---
1952	306	1,196	---	---
1953	335	1,256	---	---
1954	472	1,226	---	---
1955	622	1,209	---	---
1956	618	1,400	---	---
1957	815	1,250	---	---
1958	520	1,734	1,250	---
1959	600	1,669	1,273	---
1960	624	1,883	1,863	---
1961	626	2,065	1,481	---
1962	500	2,204	1,339	2,338
1963	678	2,027	1,620	2,241
1964	609	1,959	1,613	2,500
1965	689	1,953	1,685	2,333
1966	676	1,727	1,486	2,000
1967	648	1,561	1,667	2,250
1968 (P)	797	1,600	1,700	2,222

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 17.--Cultivos mayores: Valor de la producción a precios de 1958, Grupos 1 y 2, 1948-67
Table 17.--Major crops: Value of production at 1958 prices, Groups 1 and 2, 1948-67

Año Year	Grupo 1 Group 1	Grupo 2 Group 2				
	Café Coffee	Yuca Yuca	Fríjol Beans	Plátano Plantains	Panela Sugar, noncentrífugal	Total
	1,000 pesos					
1948	1,237,194	155,000	86,400	158,470	343,500	743,370
1949	1,317,353	168,300	80,405	221,246	357,000	826,951
1950	1,206,377	153,600	37,584	216,844	323,500	731,528
1951	1,079,356	174,000	72,000	216,200	312,500	774,700
1952	1,437,917	174,000	79,200	220,800	300,000	774,000
1953	1,372,342	174,000	74,880	226,941	305,000	780,821
1954	1,439,495	174,194	72,000	233,105	310,000	789,299
1955	1,346,653	134,800	98,784	241,247	325,000	799,831
1956	1,196,578	140,000	72,000	250,930	305,000	767,930
1957	1,303,965	140,000	103,082	253,000	275,000	771,082
1958	1,673,192	140,000	86,400	259,900	255,000	741,300
1959	1,649,802	144,000	86,400	280,600	275,000	786,000
1960	1,714,080	136,000	57,312	288,742	285,000	767,054
1961	1,606,993	130,000	63,621	293,250	387,000	873,871
1962	1,721,579	156,000	68,573	297,160	350,000	871,733
1963	1,606,950	160,000	63,216	301,070	325,000	849,286
1964	1,671,228	140,000	60,480	309,465	290,000	799,945
1965	1,756,932	160,000	57,600	318,297	280,000	815,897
1966	1,628,376	168,000	50,400	327,359	325,000	870,759
1967	1,703,367	170,000	54,720	365,792	340,000	930,512
1968 (P)	1,628,376	180,000	57,600	368,000	350,000	955,600
	Price per ton -- Precio por ton					
Precio de 1958 1958 Prices	3,571	200	1,440	230	500	---

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 18.--Cultivos mayores: Valor de la producción a precios de 1958, Grupo 3, 1948-67
Table 18.--Major crops: Value of production at 1958 prices, Group 3, 1948-67

Año / Year	Grupo 3 / Group 3				
	Maíz / Corn	Papa / Potatoes	Trigo / Wheat	Tabaco / Tobacco	Total
	1,000 pesos				
1948	244,475	180,005	102,991	37,063	564,534
1949	283,984	199,093	111,616	37,460	632,153
1950	238,815	133,200	88,740	38,148	498,903
1951	325,325	203,500	113,100	41,140	683,065
1952	357,280	222,000	121,800	39,457	740,537
1953	296,450	225,700	126,150	43,010	691,310
1954	288,750	240,500	127,020	47,352	703,622
1955	283,360	214,600	127,890	53,762	679,612
1956	287,980	230,695	121,800	68,612	709,087
1957	276,237	252,340	95,700	71,363	695,640
1958	316,739	209,235	121,800	71,804	719,578
1959	330,137	290,450	126,150	72,292	819,029
1960	333,287	241,721	123,540	46,486	745,034
1961	291,649	203,967	123,627	52,143	671,386
1962	290,256	322,455	140,940	71,458	825,109
1963	300,913	211,815	78,300	78,112	669,140
1964	372,703	320,695	73,950	77,409	844,757
1965	335,241	282,047	95,700	75,155	788,143
1966	327,250	281,200	108,750	82,747	799,947
1967	327,250	296,000	69,600	79,475	772,325
1968 (P)	325,325	333,000	108,750	78,540	845,615
	Price per ton -- Precio por ton				
Precio de 1958 / 1958 Prices	385	370	870	1,870	---

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 19.--Cultivos mayores: Valor de la producción a precios de 1958, Grupo 4, 1948-67
Table 19.--Major crops: Value of production at 1958 prices, Group 4, 1948-67

Año / Year	Grupo 4 / Group 4		
	Banano / Bananas	Cacao / Cocoa	Total
	1,000 pesos		
1948	57,250	44,800	102,050
1949	94,929	54,068	148,997
1950	93,450	33,600	127,050
1951	96,875	33,600	130,475
1952	99,900	44,400	144,300
1953	112,550	44,800	157,350
1954	116,425	45,200	161,625
1955	123,900	43,600	167,500
1956	129,475	45,200	174,675
1957	125,525	48,000	173,525
1958	127,275	46,800	174,075
1959	138,325	48,000	186,325
1960	139,275	54,000	193,275
1961	142,900	57,200	200,100
1962	129,775	60,000	189,775
1963	145,150	62,800	207,950
1964	139,900	65,600	205,500
1965	163,150	68,400	231,550
1966	180,325	71,200	251,525
1967	191,053	68,000	259,053
1968 (P)	192,500	72,000	264,500
	Price per ton -- Precio por ton		
Precio de 1958 / 1958 Prices	250	4,000	---

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 20.--Cultivos mayores: Valor de la producción a precios de 1958, Grupo 5, 1948-67
Table 20.--Major crops: Value of production at 1958 prices, Group 5, 1948-67

Año / Year	Grupo 5 / Group 5				
	Algodón fibra / Cotton fiber	Semilla de algodón / Cottonseed	Arroz / Rice	Azúcar / Sugar	Total
	1,000 pesos				
1948	24,283	5,142	125,850	85,946	241,221
1949	26,508	4,933	155,731	109,610	296,782
1950	33,841	5,561	180,750	116,090	336,242
1951	25,857	4,932	222,750	146,619	400,158
1952	42,204	7,416	246,375	146,002	441,997
1953	68,022	11,948	204,000	140,973	424,943
1954	111,369	19,776	221,137	178,604	530,886
1955	98,540	17,716	240,150	187,968	544,374
1956	89,981	16,068	256,875	193,925	556,849
1957	82,168	14,832	262,650	173,592	533,242
1958	103,365	18,540	285,337	195,595	602,837
1959	263,604	46,968	316,575	205,394	832,541
1960	267,199	47,380	337,500	243,990	896,069
1961	305,541	54,384	355,200	269,081	984,206
1962	328,706	58,504	438,750	298,189	1,124,149
1963	289,964	51,912	412,500	273,159	1,027,535
1964	263,604	47,092	450,000	317,280	1,077,976
1965	261,607	46,968	504,000	360,012	1,172,587
1966	351,472	51,500	510,000	398,725	1,311,697
1967	403,566	72,100	496,125	442,659	1,414,450
1968 (P)	487,268	83,224	587,962	493,430	1,651,884
	Price per ton -- Precio por ton				
Precio de 1958 / 1958 Prices	3,994	412	750	742	---

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 21.--Cultivos mayores: Valor de la producción a precios de 1958, Grupo 5A, 1948-67
Table 21.--Major crops: Value of production at 1958 prices, Group 5A, 1948-67

Año / Year	Grupo 5A / Group 5A				
	Ajonjolí / Sesame	Cebada / Barley	Sorgo / Sorghum	Soya / Soybeans	Total
	1,000 pesos				
1948	5,899	16,958	---	---	22,857
1949	10,101	29,625	---	---	39,726
1950	13,962	29,273	---	---	43,235
1951	10,407	32,596	---	---	43,003
1952	6,887	35,380	---	---	42,267
1953	7,526	45,820	---	---	53,346
1954	9,875	37,700	---	2,550	50,125
1955	14,818	30,160	---	3,400	48,378
1956	16,934	40,600	---	3,400	60,934
1957	20,374	34,800	---	3,400	58,574
1958	27,518	43,500	---	8,500	79,518
1959	23,814	58,580	---	11,900	94,294
1960	26,460	61,480	---	16,150	104,090
1961	29,106	57,646	---	17,000	103,752
1962	27,768	62,640	2,835	18,700	111,943
1963	49,319	68,200	4,513	25,500	147,532
1964	56,415	65,916	22,380	34,000	178,711
1965	77,515	52,200	26,110	42,500	198,325
1966	76,063	55,100	22,380	44,200	197,743
1967	46,305	55,216	33,570	68,000	203,091
1968 (P)	15,810	43,384	37,300	72,250	168,744
	Price per ton -- Precio por ton				
Precio de 1958 / 1958 Prices	1,323	580	373	850	---

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 22.--Cultivos menores: Valor de la producción a precios de 1958, 1950-67
Table 22.--Minor crops: Value of production at 1958 prices, 1950-67

Año / Year	Ajos y cebollas / Garlic and onions	Arracacha / Arracacha	Arveja / Green peas	Caucho / Rubber	Copra / Copra
	1,000 pesos				
1950	47,853.0	37,400.0	13,855.6	958.6	8,250.0
1951	51,125.0	42,160.0	26,384.6	958.6	7,425.0
1952	51,125.0	42,160.0	29,185.2	1,917.2	6,930.0
1953	51,125.0	42,160.0	27,563.8	1,437.9	6,600.0
1954	51,125.0	42,160.0	26,384.6	1,437.9	5,280.0
1955	46,626.0	32,640.0	36,702.6	1,917.2	4,620.0
1956	49,080.0	34,000.0	26,384.6	2,396.5	3,630.0
1957	53,783.5	34,000.0	38,176.6	2,396.5	2,970.0
1958	53,783.5	34,000.0	31,834.4	2,396.5	2,475.0
1959	55,215.0	35,020.0	31,834.4	2,396.5	2,475.0
1960	56,851.0	36,040.0	32,722.8	2,396.5	2,475.0
1961	57,464.5	36,380.0	34,049.4	2,396.5	2,475.0
1962	59,714.0	37,740.0	34,786.4	2,396.5	2,475.0
1963	62,372.5	39,100.0	35,376.0	2,396.5	2,475.0
1964	65,031.0	39,780.0	36,407.8	2,396.5	2,475.0
1965	66,871.5	40,800.0	37,439.6	2,396.5	2,475.0
1966	69,121.0	41,820.0	38,471.4	2,396.5	2,475.0
1967	72,393.0	42,500.0	40,092.8	2,396.5	2,475.0
	Price per ton -- Precio por ton				
Precio de 1958 / 1958 prices	2,045.0	340.0	1,474.0	4,793.0	1,650.0

Véase fuentes de información.
See sources of data.

Continued--

Tabla 22.--Cultivos menores: Valor de la producción a precios de 1958, 1950-67--Continuación
Table 22.--Minor crops: Value of production at 1958 prices, 1950-67--Continued

Año Year	Coco verde Green coconut	Fique Sisal	Frutas varias Various fruits	Hortalizas varias Vegetables	Garbanzo, haba y lentejas Chickpeas, lima beans and lentils
	1,000 pesos				
1950	9,840.0	16,065.0	82,725.0	40,760.0	23,085.0
1951	8,850.0	18,802.0	81,500.0	40,000.0	44,118.0
1952	8,280.0	20,111.0	87,675.0	43,040.0	48,991.5
1953	7,890.0	20,111.0	95,375.0	46,800.0	46,426.5
1954	6,300.0	20,468.0	105,500.0	51,800.0	44,118.0
1955	5,520.0	20,111.0	104,600.0	51,360.0	61,303.5
1956	4,320.0	19,754.0	109,450.0	53,720.0	44,118.0
1957	3,540.0	19,159.0	110,450.0	54,200.0	64,125.0
1958	2,940.0	21,420.0	110,100.0	54,200.0	53,352.0
1959	2,940.0	20,825.0	112,750.0	55,360.0	53,352.0
1960	2,940.0	22,372.0	115,900.0	56,920.0	54,891.0
1961	2,940.0	27,370.0	117,500.0	57,720.0	57,199.5
1962	2,940.0	29,155.0	122,100.0	59,960.0	58,482.0
1963	2,940.0	29,750.0	125,500.0	61,640.0	59,508.0
1964	2,940.0	31,654.0	129,000.0	60,960.0	61,047.0
1965	2,940.0	32,130.0	132,675.0	65,160.0	62,842.5
1966	2,940.0	33,320.0	136,450.0	67,000.0	64,638.0
1967	2,940.0	35,700.0	140,575.0	69,280.0	69,511.5
	Price per ton -- Precio por ton				
Precio de 1958 1958 prices	300.0	1,190.0	250.0	400.0	2,565.0

Véase fuentes de información.
See sources of data.

Continued--

Tabla 22.--Cultivos menores: Valor de producción a precios de 1958, 1950-67--Continuación
Table 22.--Minor crops: Value of production at 1958 prices, 1950-67--Continued

Año Year	Ñame Yam	Maiz millo Millet	Tomates Tomatoes	Otros tubérculos y raíces Other tubers and roots	Total
	1,000 pesos				
1950	21,888.0	900.0	12,059.5	7,040.0	322,679.7
1951	24,660.0	1,230.0	11,881.5	7,940.0	367,034.7
1952	24,660.0	1,350.0	12,771.5	7,940.0	386,136.4
1953	24,660.0	1,290.0	13,884.0	7,940.0	393,263.2
1954	24,660.0	1,230.0	15,352.5	7,940.0	403.756.0
1955	19,098.0	1,110.0	15,219.0	6,140.0	406,967.3
1956	19,890.0	1,140.0	15,931.0	6,400.0	390,214.1
1957	19,890.0	1,050.0	16,064.5	6,400.0	426,205.1
1958	19,890.0	1,200.0	16,020.0	6,400.0	410,011.4
1959	20,484.0	960.0	16,420.5	6,600.0	416,632.4
1960	21,078.0	1,260.0	16,865.5	6,780.0	429,491.8
1961	21,276.0	1,290.0	17,132.5	6,860.0	442,053.4
1962	22,086.0	1,320.0	17,800.0	7,100.0	458,054.9
1963	22,680.0	1,350.0	18,289.5	7,300.0	470,667.5
1964	23,310.0	1,800.0	18,779.0	7,560.0	483,140.3
1965	23,976.0	2,100.0	19,313.0	7,740.0	498,859.1
1966	25,020.0	2,250.0	19,847.0	7,960.0	513,708.5
1967	25,380.0	2,550.0	20,559.0	8,260.0	534,612.8
	Price per ton -- Precio por ton				
Precio de 1958 1958 prices	180.0	300.0	445.0	200.0	---

Véase fuentes de información.
See sources of data.

Tabla 23.--Cultivos mayores: Rendimiento por hectárea a precios de 1958, Grupos 1 y 2, 1948-67
Table 23.--Major crops: Yield per hectare at 1958 prices, Groups 1 and 2, 1948-67

Año Year	Grupo 1 Group 1	Grupo 2 Group 2			
	Café Coffee	Yuca Yuca	Fríjol Beans	Plátano Plantains	Panela Sugar, noncentrífugal
	Pesos por hectárea Pesos per hectare				
1948	2,100	1,087	708	1,585	1,670
1949	2,008	1,087	851	1,837	1,675
1950	1,839	1,087	477	1,811	1,511
1951	1,635	1,088	867	1,817	1,434
1952	2,130	1,088	861	1,840	1,374
1953	1,651	1,130	881	1,891	1,419
1954	1,650	1,177	554	1,636	1,418
1955	1,650	936	797	1,560	1,478
1956	1,650	1,000	545	1,562	1,387
1957	1,650	1,000	781	1,501	1,251
1958	2,010	1,053	697	1,560	1,146
1959	1,921	1,152	864	1,560	1,244
1960	1,920	1,133	664	1,560	1,255
1961	1,933	1,130	776	1,564	1,675
1962	2,089	1,130	788	1,571	1,534
1963	1,984	1,127	842	1,571	1,289
1964	2,055	1,120	796	1,572	1,143
1965	2,164	1,127	758	1,866	1,140
1966	2,007	1,183	788	1,455	1,382
1967	2,101	1,181	793	1,590	1,455
1968 (P)	1,995	1,181	823	1,600	1,455

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 24.--Cultivos mayores: Rendimiento por hectárea a precios de 1958, Grupo 3, 1948-67
Table 24.--Major crops: Yield per hectare at 1958 prices, Group 3, 1948-67

Año / Year	Grupo 3 / Group 3			
	Maíz / Corn	Papa / Potatoes	Trigo / Wheat	Tobaco / Tobacco
	Pesos por hectárea / Pesos per hectare			
1948	357	3,462	581	1,877
1949	402	3,433	618	2,098
1950	367	3,415	610	2,025
1951	424	3,634	649	2,057
1952	423	3,639	648	1,973
1953	424	3,891	721	2,389
1954	425	3,879	651	2,492
1955	341	3,819	703	3,098
1956	348	4,179	716	3,296
1957	443	4,157	538	3,236
1958	457	4,872	761	3,137
1959	458	4,647	760	3,271
1960	457	4,458	772	3,331
1961	410	4,202	773	3,853
1962	416	4,299	940	3,767
1963	437	3,074	693	3,559
1964	483	4,231	740	3,560
1965	386	4,241	798	2,953
1966	387	4,197	989	3,065
1967	414	3,747	1,024	3,455
1968 (P)	420	3,918	1,169	3,570

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 25.--Cultivos mayores: Rendimiento por hectárea a precios de 1958, Grupo 4, 1948-67
Table 25.--Major crops: Yield per hectare at 1958 prices, Group 4, 1948-67

Año / Year	Grupo 4 / Group 4	
	Banano / Bananas	Cacao / Cocoa
	Pesos por hectárea / Pesos per hectare	
1948	1,431	1,346
1949	2,110	1,762
1950	2,336	1,059
1951	2,202	1,059
1952	2,270	1,388
1953	2,501	1,383
1954	2,587	1,373
1955	2,693	1,309
1956	2,877	1,345
1957	2,671	1,500
1958	2,546	1,462
1959	2,882	1,500
1960	2,786	1,688
1961	2,802	1,733
1962	2,648	1,765
1963	2,592	1,794
1964	2,412	1,773
1965	2,813	1,829
1966	3,109	1,874
1967	3,294	1,838
1968 (P)	3,319	1,836

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 26.--Cultivos mayores: Rendimiento por hectárea a precios de 1958, Grupo 5, 1948-67
Table 26.--Major crops: Yield per hectare at 1958 prices, Group 5, 1948-67

Año / Year	Grupo 5 / Group 5			
	Algodón fibra / Cotton fiber	Semilla de algodón / Cottonseed	Arroz / Rice	Azúcar / Sugar
	Pesos por hectárea / Pesos per hectare			
1948	683	145	1,325	2,507
1949	944	176	1,298	2,481
1950	919	151	1,359	2,557
1951	651	124	1,536	2,897
1952	765	134	1,642	2,861
1953	1,014	178	1,333	2,849
1954	1,354	240	1,264	3,466
1955	1,172	211	1,277	3,535
1956	1,312	234	1,352	3,652
1957	1,304	235	1,382	3,272
1958	1,342	241	1,450	3,450
1959	2,007	358	1,538	3,755
1960	1,777	315	1,485	3,882
1961	2,037	363	1,498	4,288
1962	1,945	346	1,569	4,581
1963	2,055	368	1,624	4,207
1964	1,757	314	1,488	4,429
1965	1,768	317	1,345	4,472
1966	2,143	314	1,457	4,351
1967	2,313	413	1,707	4,940
1968 (P)	2,389	408	2,213	4,940

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 27.--Cultivos mayores: Rendimiento por hectárea a precios de 1958, Grupo 5A, 1948-67
Table 27.--Major crops: Yield per hectare at 1958 prices, Group 5A, 1948-67

Año / Year	Grupo 5A Group 5A			
	Ajonjolí Sesame	Cebada Barley	Soya Soybean	Sorgo Sorghum
	Pesos por hectárea / Pesos per hectare			
1948	454	695	---	---
1949	631	655	---	---
1950	997	667	---	---
1951	743	694	---	---
1952	405	694	---	---
1953	443	728	---	---
1954	625	711	---	---
1955	823	701	---	---
1956	818	812	---	---
1957	1,078	725	---	---
1958	688	1,006	1,062	---
1959	794	968	1,082	---
1960	825	1,092	1,583	---
1961	828	1,198	1,259	---
1962	661	1,278	1,138	872
1963	897	1,176	1,377	836
1964	806	1,136	1,371	932
1965	912	1,133	1,432	870
1966	895	1,002	1,263	746
1967	858	905	1,417	839
1968 (P)	1,054	928	1,445	829

Véase fuentes de información.
See sources of data.
(P) = Preliminary.

Tabla 28.--Cultivos mayores: Superficie total por grupos, 1948-67
Table 28.--Major crops: Total area by groups, 1948-67

Año / Year	Grupo 1 / Group 1	Grupo 2 / Group 2	Grupo 3 / Group 3	Grupo 4 / Group 4	Grupo 5 / Group 5	Grupo 5A / Group 5A	Total
	Hectáreas / Hectares						
1948	589,000	570,257	934,050	73,280	164,861	37,390	2,368,838
1949	656,000	582,755	963,730	75,690	192,259	61,225	2,531,659
1950	656,000	553,895	854,840	71,730	215,233	57,910	2,409,608
1951	660,000	579,959	1,018,150	75,730	235,312	61,000	2,630,151
1952	675,000	590,272	1,113,000	76,000	256,192	68,000	2,778,464
1953	831,000	573,868	951,000	77,400	269,570	79,900	2,782,738
1954	872,510	639,153	956,000	77,900	308,811	68,800	2,923,174
1955	816,233	642,539	1,086,033	79,300	325,223	61,000	3,010,328
1956	725,285	652,433	1,074,251	78,600	311,680	70,700	2,912,949
1957	790,376	660,327	884,750	79,000	306,061	66,900	2,787,414
1958	832,461	646,138	918,430	82,000	330,494	91,250	2,900,773
1959	858,705	625,908	971,332	80,000	391,865	101,500	3,029,310
1960	892,547	618,520	957,768	82,000	440,497	98,560	3,089,892
1961	831,466	615,464	932,905	84,000	449,855	96,806	3,010,496
1962	824,067	642,296	940,867	83,000	513,641	110,654	3,114,525
1963	809,963	660,813	892,601	91,000	460,053	136,917	3,051,347
1964	813,100	651,465	969,149	95,000	524,187	176,800	3,229,701
1965	812,000	634,230	1,080,817	95,400	603,260	190,750	3,416,457
1966	811,400	666,250	1,049,770	96,000	605,633	205,000	3,434,053
1967	810,550	676,725	960,000	95,000	554,754	203,000	3,300,029
1968 (P)	816,326	693,097	975,000	97,216	569,580	156,750	3,307,969

Véase tablas 7-11.
See tables 7-11.
(P) = Preliminary.

Tabla 29.--Cultivos mayores: Valor total de la producción por grupos a precios de 1958, 1948-67
Table 29.--Major crops: Total value of production by groups at 1958 prices, 1948-67

Año Year	Grupo 1 Group 1	Grupo 2 Group 2	Grupo 3 Group 3	Grupo 4 Group 4	Grupo 5 Group 5	Grupo 5A Group 5A	Total
	1,000 pesos						
1948	1,237,194	743,370	564,534	102,050	241,221	22,857	2,911,226
1949	1,317,353	826,951	632,153	148,997	296,782	39,726	3,261,962
1950	1,206,377	731,528	498,903	127,050	336,242	43,235	2,943,335
1951	1,079,356	774,700	683,065	130,475	400,158	43,003	3,110,757
1952	1,437,917	774,000	740,537	144,300	441,997	42,267	3,581,018
1953	1,372,342	780,821	691,310	157,350	424,943	53,346	3,480,112
1954	1,439,495	789,299	703,622	161,625	530,886	50,125	3,675,052
1955	1,346,653	799,831	679,612	167,500	544,374	48,378	3,586,348
1956	1,196,578	767,930	709,087	174,675	556,849	60,934	3,466,053
1957	1,303,965	771,082	695,640	173,525	533,242	58,574	3,536,028
1958	1,673,192	741,300	719,578	174,075	602,837	79,518	3,990,500
1959	1,649,802	786,000	819,029	186,325	832,541	94,294	4,367,991
1960	1,714,080	767,054	745,034	193,275	896,069	104,090	4,419,602
1961	1,606,993	873,871	671,386	200,100	984,206	103,752	4,440,308
1962	1,721,579	871,733	825,109	189,775	1,124,149	111,943	4,844,288
1963	1,606,950	849,286	669,140	207,950	1,027,535	147,532	4,508,393
1964	1,671,228	799,945	844,757	205,500	1,077,976	178,711	4,778,117
1965	1,756,932	815,897	788,143	231,550	1,172,587	198,325	4,963,434
1966	1,628,376	870,759	799,947	251,525	1,311,697	197,743	5,060,047
1967	1,703,367	930,512	772,325	259,053	1,414,450	203,091	5,282,798
1968 (P)	1,628,376	955,600	845,615	264,500	1,651,884	168,744	5,514,719

Véase tablas 17-21.
See tables 17-21.
(P) = Preliminary.

Tabla 30.--Cultivos mayores: Total de rendimientos por grupos en pesos por hectárea a precios de 1958, 1948-67

Table 30.--Major crops: Total yield per hectare by groups at 1958 prices, 1948-67

Año Year	Grupo 1 Group 1	Grupo 2 Group 2	Grupo 3 Group 3	Grupo 4 Group 4	Grupo 5 Group 5	Grupo 5A Group 5A
	Pesos por hectárea / Pesos per hectare					
1948	2,100	1,304	604	1,393	1,463	611
1949	2,008	1,419	656	1,969	1,544	649
1950	1,839	1,321	584	1,771	1,562	747
1951	1,635	1,336	671	1,723	1,701	705
1952	2,130	1,311	665	1,899	1,725	622
1953	1,651	1,361	727	2,033	1,576	668
1954	1,650	1,235	736	2,075	1,719	729
1955	1,650	1,245	626	2,112	1,674	793
1956	1,650	1,177	660	2,222	1,787	862
1957	1,650	1,168	786	2,197	1,742	876
1958	2,010	1,147	783	2,123	1,824	871
1959	1,921	1,256	843	2,329	2,125	929
1960	1,920	1,240	778	2,357	2,034	1,056
1961	1,933	1,420	720	2,382	2,188	1,072
1962	2,089	1,357	877	2,286	2,189	1,012
1963	1,984	1,285	750	2,285	2,234	1,078
1964	2,055	1,228	872	2,163	2,056	1,011
1965	2,164	1,286	729	2,427	1,944	1,040
1966	2,007	1,307	762	2,620	2,166	965
1967	2,101	1,375	804	2,727	2,550	1,000
1968 (P)	1,995	1,379	867	2,721	2,900	1,077

Véase tablas 23-27.
See tables 23-27.
(P) = Preliminary.

Tabla 31.--Cultivos mayores: Producción, superficie y rendimientos totales a precios de 1958, 1948-67
Table 31.--Major crops: Total production, area and yield at 1958 prices, 1948-67

Año Year	Valor total de producción Total value of production	Superficie total Total cultivated area	Rendimiento total Total yield	Indice de producción Index of production
	1,000 pesos	Hectáreas Hectares	Pesos por hectárea Pesos per hectare	1958 = 100
1948	2,911,226	2,368,838	1,229	73
1949	3,261,962	2,531,659	1,288	82
1950	2,943,335	2,409,608	1,221	74
1951	3,110,757	2,630,151	1,183	78
1952	3,581,018	2,778,464	1,289	90
1953	3,480,112	2,782,738	1,251	87
1954	3,675,052	2,923,174	1,257	92
1955	3,586,348	3,010,328	1,191	90
1956	3,466,053	2,912,949	1,190	87
1957	3,536,028	2,787,414	1,269	89
1958	3,990,500	2,900,773	1,376	100
1959	4,367,991	3,029,310	1,442	109
1960	4,419,602	3,089,892	1,430	111
1961	4,440,308	3,010,496	1,475	111
1962	4,844,288	3,114,525	1,555	121
1963	4,508,393	3,051,347	1,478	113
1964	4,778,117	3,229,701	1,479	120
1965	4,963,434	3,416,457	1,453	124
1966	5,060,047	3,434,053	1,473	127
1967	5,282,798	3,300,029	1,601	132
1968 (P)	5,514,719	3,307,967	1,667	138

Véase tablas 28-29.
See tables 28-29.
(P) = Preliminary.

Tabla 32.--Producción pecuaria: Degüello y exportación de ganado vacuno, 1950-67
Table 32.--Livestock production: Cattle slaughter and exports, 1950-67

Año Year	Degüello controlado Registered slaughter	Degüello no controlado Unregistered slaughter	Exp. registrada Registered exp.	Exportación no registrada Unregistered exports
	1,000 cabezas			
	1,000 head			
1950	1,397.0	139.7	12.0	---
1951	1,431.0	143.1	10.2	---
1952	1,414.0	141.4	9.7	---
1953	1,336.0	133.6	6.3	---
1954	1,313.0	131.3	---	15.0
1955	1,354.0	135.4	---	15.0
1956	1,550.0	155.0	---	49.0
1957	1,677.0	167.7	---	60.0
1958	1,651.1	165.1	---	120.0
1959	1,523.0	152.3	---	200.0
1960	1,530.0	153.0	---	200.0
1961	1,702.0	170.2	---	100.0
1962	1,879.0	187.9	---	120.0
1963	2,018.5	201.9	---	100.0
1964	2,056.2	205.6	3.1	114.0
1965	1,978.3	197.8	56.5	100.6
1966	1,871.1	187.1	45.8	80.9
1967	1,860.0	185.2	54.0	96.0

Véase fuentes de información.
See sources of data.

Tabla 33.--Producción pecuaria: Exportación, degüello, variación de existencias y producción de ganado vacuno, 1950-67

Table 33.--Livestock production: Exports, slaughter, change in inventories and production of cattle, 1950-67

Año / Year	Exportación total 1/ / Total exports	Total degüello 2/ / Total slaughter	Total degüello y exportación / Total export and slaughter	Variación de existencias / Changes in inventory	Producción total / Total production
	1,000 cabezas / 1,000 head				
1950	12.0	1,536.7	1,548.7	300.0	1,848.7
1951	10.2	1,574.1	1,584.3	-150.0	1,434.3
1952	9.7	1,555.4	1,565.1	-150.0	1,415.1
1953	6.3	1,469.6	1,475.9	-150.0	1,325.9
1954	15.0	1,444.3	1,459.3	-150.0	1,309.3
1955	15.0	1,489.4	1,504.4	300.0	1,804.4
1956	49.0	1,705.0	1,754.0	300.0	2,054.0
1957	60.0	1,844.7	1,904.7	300.0	2,204.7
1958	120.0	1,816.2	1,936.2	300.0	2,236.2
1959	200.0	1,675.3	1,875.3	300.0	2,175.3
1960	200.0	1,683.0	1,883.0	529.0	2,412.0
1961	100.0	1,872.2	1,972.2	350.0	2,322.2
1962	120.0	2,066.9	2,186.9	300.0	2,486.9
1963	100.0	2,220.4	2,320.4	300.0	2,620.4
1964	117.1	2,261.8	2,378.9	305.0	2,683.9
1965	157.1	2,176.1	2,333.2	298.0	2,631.2
1966	126.7	2,058.2	2,184.9	429.3	2,614.2
1967	150.0	2,045.2	2,195.2	440.0	2,635.2

1/ Incluyendo exportaciónes no registradas.
Including unregistered exports.

2/ Incluyendo un estimativo del 10% de degüello no controlado.
Including 10% of estimated unregistered slaughter.

Tabla 34.--Producción pecuaria: Degüello y variación de existencias de ganado porcino, ovino y caprino, 1950-67

Table 34.--Livestock production: Slaughter and change in inventories of hogs, sheep and goats, 1950-67

Año Year	Ganado porcino 1/ Hogs		Ganado ovino Sheep		Ganado caprino Goats	
	Degüello Slaughter	Variación de existencias Change in inventory	Degüello Slaughter	Variación de existencias Change in inventory	Degüello Slaughter	Variación de existencias Change in inventory
	1,000 cabezas / 1,000 head					
1950	863.0	282.0	150.0	50.0	219.4	15.0
1951	749.0	-405.0	156.4	50.0	225.0	15.0
1952	797.0	-177.0	164.6	50.0	195.0	-70.0
1953	910.0	-200.0	187.8	-50.0	162.9	-70.0
1954	1,018.0	-176.0	184.8	-36.0	130.9	-66.0
1955	1,084.0	-97.0	177.4	-78.5	154.8	48.0
1956	1,026.0	23.0	189.0	78.5	154.8	---
1957	945.0	20.0	197.0	-78.5	156.6	1.0
1958	1,036.0	30.0	189.6	-78.5	156.5	7.0
1959	1,118.0	50.0	178.2	-50.0	185.5	---
1960	1,154.0	50.0	169.6	50.0	199.3	2.0
1961	1,284.0	60.0	184.0	60.0	192.1	2.0
1962	1,235.0	78.0	198.0	30.0	199.9	2.0
1963	1,226.0	150.0	180.0	65.0	163.0	13.0
1964	1,124.0	150.0	180.0	65.0	145.4	13.0
1965	1,100.0	150.0	183.4	65.0	192.6	13.0
1966	1,112.0	155.0	172.8	66.0	199.3	13.0
1967	1,245.0	160.0	150.0	67.0	180.0	13.0

1/ Incluyendo un estimativos del 30% de degüello no controlado.
Including 30% of estimated unregistered slaughter.

Véase fuentes de información.
See sources of data.

Tabla 35.--Productos pecuarios: Leche, lana, aves y huevos, 1950-67
Table 35.--Livestock products: Milk, wool, poultry and eggs, 1950-67

Año Year	Leche Milk	Lana Wool	Aves Poultry	Huevos Eggs
			1,000 unidades 1,000 units	
	Tons	Tons		1,000
1950	1,159,860	900	22,500	900,000
1951	1,193,790	938	20,629	825,160
1952	1,227,720	900	20,833	833,320
1953	1,263,210	863	21,333	853,320
1954	1,300,000	836	21,333	853,320
1955	1,333,000	777	21,489	859,560
1956	1,489,000	718	19,978	799,120
1957	1,587,000	659	21,973	878,920
1958	1,681,000	600	22,500	900,000
1959	1,753,000	600	25,000	1,000,000
1960	1,753,000	600	26,200	1,048,000
1961	1,762,000	645	27,400	1,096,000
1962	1,785,000	686	30,000	1,178,300
1963	1,833,000	761	35,000	1,400,000
1964	1,860,000	855	36,500	1,460,000
1965	1,973,000	906	38,000	1,521,000
1966	2,020,000	951	39,500	1,580,000
1967	2,080,000	996	41,000	1,643,200

Véase fuentes de información.
See sources of data.

Tabla 36.--Cría y levante de animales de carga: Número de cabezas de ganado caballar, mular y asnal, 1950-67

Table 36.--Draft animals raised: Horses, mules and asses, 1950-67

Año Year	Caballar Horses	Mular Mules	Asnal Asses
	Número de cabezas Number of head		
1950	104,607	39,607	27,397
1951	108,773	42,231	28,147
1952	108,356	41,065	28,985
1953	107,940	39,901	28,897
1954	107,523	37,483	28,824
1955	107,100	36,982	28,735
1956	106,689	34,483	28,647
1957	106,172	31,816	27,574
1958	105,855	28,984	27,397
1959	105,438	27,984	28,235
1960	105,024	30,984	28,162
1961	104,607	32,319	28,074
1962	105,900	31,400	22,200
1963	119,115	48,649	32,221
1964	120,538	49,245	27,220
1965	121,961	49,840	32,632
1966	123,400	50,400	33,000
1967	125,000	51,000	34,000

Véase fuentes de información.
See sources of data.

Tabla 37.--Producción pecuaria: Valor a precios de 1958 de degüello, exportaciónes y variación de existencias de ganado vacuno y porcino, 1950-67

Table 37.--Livestock production: Value of slaughter, exports and change in inventory of cattle and hogs at 1958 prices, 1950-67

Año / Year	Ganado vacuno Cattle			Ganado porcino Hogs	
	Degüello / Slaughter	Exportaciónes / Exports	Variación de existencias / Change in inventory	Degüello / Slaughter	Variación de existencias / Change in inventory
	1,000,000 pesos				
1950	914.3	7.1	111.0	232.1	38.1
1951	936.6	6.1	-55.5	201.5	-54.7
1952	925.5	5.8	-55.5	214.4	-23.9
1953	874.4	3.7	-55.5	244.8	-27.0
1954	859.4	8.9	-55.5	273.8	-23.8
1955	886.2	8.9	111.0	291.6	-13.1
1956	1,014.5	29.2	111.0	276.0	3.1
1957	1,097.6	35.7	111.0	254.2	2.7
1958	1,080.6	71.4	111.0	278.7	4.0
1959	996.8	119.0	111.0	300.7	6.8
1960	1,001.4	119.0	195.7	310.4	6.8
1961	1,114.0	59.5	129.5	345.4	8.1
1962	1,229.8	71.4	111.0	332.2	10.5
1963	1,321.1	59.5	111.0	329.8	20.2
1964	1,345.8	69.7	112.8	302.4	20.2
1965	1,294.8	93.5	110.3	295.9	20.2
1966	1,224.6	75.4	158.8	299.1	20.9
1967	1,216.9	89.2	162.8	334.9	21.6
Precio de 1958: 1958 Prices	595.0	595.0	370.0	269.0	135.0

Véase fuentes de información.
See sources of data.

Continued--

Tabla 37.--Producción pecuaria: Valor a precios de 1958 de degüello y variación de existencias de ganado ovino y caprino, 1950-67--Continuación

Table 37.--Livestock production: Value of slaughter and change in inventory of sheep and goats at 1958 prices, 1950-67--Continued

Año / Year	Ganado ovino Sheep		Ganado caprino Goats	
	Degüello / Slaughter	Variación de existencias / Change in inventory	Degüello / Slaughter	Variación de existencias / Change in inventory
	1,000,000 pesos			
1950	9.4	2.8	7.2	.5
1951	9.9	2.8	7.4	.5
1952	10.4	2.8	6.4	-2.3
1953	11.8	-2.8	5.4	-2.3
1954	11.6	-2.0	4.3	-2.2
1955	11.2	-4.3	5.1	1.6
1956	11.9	4.3	5.1	---
1957	12.4	-4.3	5.2	---
1958	11.9	-4.3	5.2	.2
1959	11.2	-2.8	6.1	---
1960	10.7	2.8	6.6	.1
1961	11.6	3.3	6.3	.1
1962	12.5	1.6	6.6	.1
1963	11.3	3.6	5.4	.4
1964	11.3	3.6	4.8	.4
1965	11.6	3.6	6.4	.4
1966	10.9	3.6	6.6	.4
1967	9.4	3.7	5.9	.4
Precio de 1958 1958 Prices	63.0	55.0	33.0	33.0

Véase fuentes de información.
See sources of data.

Tabla 38.--Productos pecuarios: Valor a precios de 1958 de la producción de leche, lana, aves y huevos, 1950-67

Table 38.--Livestock products: Value of milk, wool, poultry and eggs at 1958 prices, 1950-67

Año Year	Leche Milk	Lana Wool	Aves Poultry	Huevos Eggs
	1,000,000 pesos			
1950	579.9	6.3	180.0	243.0
1951	596.9	6.6	165.0	222.8
1952	613.9	6.3	166.7	225.0
1953	631.6	6.0	170.7	230.4
1954	650.0	5.9	170.7	230.4
1955	666.5	5.4	171.9	232.1
1956	744.5	5.0	159.8	215.8
1957	793.5	4.6	175.8	237.3
1958	840.5	4.2	180.0	243.0
1959	876.5	4.2	200.0	270.0
1960	876.5	4.2	209.6	283.0
1961	881.0	4.5	219.2	296.0
1962	892.5	4.8	240.0	318.1
1963	916.5	5.3	280.0	378.0
1964	930.0	6.0	292.0	394.2
1965	986.5	6.3	304.0	410.7
1966	1,010.0	6.7	316.0	426.6
1967	1,040.0	7.0	328.0	443.7
Precio de 1958 1958 Prices	500.0	7,000.0	8.0	0.27

Véase fuentes de información.
See sources of data.

Tabla 39.--Cría y levante de animales de carga: Valor a precios de 1958 del número de cabezas de ganado caballar, mular y asnal, 1950-67

Table 39.--Draft animals raised: Value of horses, mules and asses at 1958 prices, 1950-67

Año Year	Caballar Horses	Mular Mules	Asnal Asses
		1,000,000 pesos	
1950	34.6	17.6	1.9
1951	36.0	18.8	1.9
1952	35.9	18.2	2.0
1953	35.7	17.7	2.0
1954	35.6	16.6	2.0
1955	35.5	16.4	2.0
1956	35.3	15.3	2.0
1957	35.1	14.1	1.9
1958	35.0	12.9	1.9
1959	34.9	12.4	1.9
1960	34.8	13.8	1.9
1961	34.6	14.3	1.9
1962	35.1	13.9	1.5
1963	39.4	21.6	2.2
1964	39.9	21.9	1.9
1965	40.4	22.1	2.3
1966	40.8	22.4	2.3
1967	41.4	22.6	2.3
Precios de 1958 1958 Prices	331.0	444.0	69.0

Véase fuentes de información.
See sources of data.

Tabla 40.--Producción pecuaria: Valor total a precios de 1958, 1950-67
Table 40.--Livestock production: Total value at 1958 prices, 1950-67

Año Year	Vacunos Cattle	Porcinos Hogs	Ovinos Sheep	Caprinos Goats	Productos pecuarios Livestock products	Animales de carga Draft animals	Total
				1,000,000 pesos			
1950	1,032.4	270.2	12.2	7.7	1,009.2	54.1	2,385.8
1951	887.2	146.8	12.7	7.9	991.3	56.7	2,102.6
1952	875.8	190.5	13.2	4.1	1,011.9	56.1	2,151.6
1953	822.6	217.8	9.0	3.1	1,038.7	55.4	2,146.6
1954	812.8	250.0	9.6	2.1	1,057.0	54.2	2,185.7
1955	1,006.1	278.5	6.9	6.7	1,075.9	53.9	2,428.0
1956	1,154.7	279.1	16.2	5.1	1,125.1	52.6	2,632.8
1957	1,244.3	256.9	8.1	5.2	1,211.2	51.1	2,776.8
1958	1,263.0	282.7	7.6	5.4	1,267.7	49.8	2,876.2
1959	1,226.8	307.5	8.4	6.1	1,350.7	49.2	2,948.7
1960	1,316.1	317.2	13.5	6.7	1,373.3	50.5	3,077.3
1961	1,303.0	353.5	14.9	6.4	1,400.7	50.8	3,129.3
1962	1,412.2	342.7	14.1	6.7	1,455.4	50.5	3,281.6
1963	1,491.6	350.0	14.9	5.8	1,579.8	63.2	3,505.3
1964	1,528.3	322.6	14.9	5.2	1,622.2	63.7	3,556.9
1965	1,498.6	316.1	15.2	6.8	1,707.5	64.8	3,609.0
1966	1,458.8	320.0	14.5	7.0	1,759.3	65.5	3,625.1
1967	1,468.9	356.5	13.1	6.3	1,818.7	66.3	3,729.8

Véase tablas 37,38 y 39.
See tables 37,38, and 39.

Tabla 41.--Producción agropecuaria: Valor total a precios de 1958, 1950-67
Table 41.--Agricultural production: Total value at 1958 prices, 1950-67

Año Year	Cultivos mayores Major crops	Cultivos menores Minor crops	Total cultivos Total crops	Total pecuario Total livestock	Cultivos+ pecuario Crops+ livestock	Animales de carga Draft animals	Pecuario - animales de carga Livestock - draft animals	Cultivos+ pecuario - animales de carga Crops + livestock - draft animals
	1,000,000 pesos							
1950	2,943.3	322.7	3,266.0	2,385.8	5,651.8	54.1	2,331.7	5,597.7
1951	3,110.8	367.0	3,477.8	2,102.6	5,580.4	56.7	2,045.9	5,523.7
1952	3,581.0	386.1	3,967.1	2,151.6	6,118.7	56.1	2,095.5	6,062.6
1953	3,480.1	393.3	3,873.4	2,146.6	6,020.0	55.4	2,091.2	5,964.6
1954	3,675.1	403.8	4,078.9	2,185.7	6,264.6	54.2	2,131.5	6,210.4
1955	3,586.3	407.0	3,993.3	2,428.0	6,421.3	53.9	2,374.1	6,367.4
1956	3,466.1	390.2	3,856.3	2,632.8	6,489.1	52.6	2,580.2	6,436.5
1957	3,536.0	426.2	3,962.2	2,776.8	6,739.0	51.1	2,725.7	6,687.9
1958	3,990.5	410.0	4,400.5	2,876.2	7,276.7	49.8	2,826.4	7,226.9
1959	4,368.0	416.6	4,784.6	2,948.7	7,733.3	49.2	2,899.5	7,684.1
1960	4,419.6	429.5	4,849.1	3,077.3	7,926.4	50.5	3,026.8	7,875.9
1961	4,440.3	442.1	4,882.4	3,129.3	8,011.7	50.8	3,078.5	7,960.9
1962	4,844.3	458.1	5,302.4	3,281.6	8,584.0	50.5	3,231.1	8,533.5
1963	4,508.4	470.7	4,979.1	3,505.3	8,484.4	63.2	3,442.1	8,421.2
1964	4,778.1	483.1	5,261.2	3,556.9	8,818.1	63.7	3,493.2	8,754.4
1965	4,963.4	498.9	5,462.3	3,609.0	9,071.3	64.8	3,544.2	9,006.5
1966	5,060.0	513.7	5,573.7	3,625.1	9,198.8	65.5	3,559.6	9,133.3
1967	5,282.8	534.6	5,817.4	3,729.8	9,547.2	66.3	3,663.5	9,480.9

Véase tablas 29, 22 y 40.
See tables 29, 22, and 40.

Tabla 42.--Producción pecuaria: Valor a precios de 1958 de la producción no disponible para consumo alimenticio, 1950-67

Table 42.--Livestock production: Value of production not available for food consumption at 1958 prices, 1950-67

Año Year	Exportación Exports	Variación de existencias Change in inventory				Equino	Lana	Total
	Ganado vacuno Cattle	Ganado vacuno Cattle	Porcino Hogs	Ovino Sheep	Caprino Goats	Draft animals	Wool	
	1,000,000 pesos							
1950	7.1	111.0	38.1	2.8	.5	54.1	6.3	219.9
1951	6.1	-55.0	-54.7	2.8	.5	56.7	6.6	-37.0
1952	5.8	-55.0	-23.9	2.8	-2.3	56.1	6.3	-10.2
1953	3.7	-55.0	-27.0	-2.8	-2.3	55.4	6.0	-22.0
1954	8.9	-55.0	-23.8	-2.0	-2.2	54.2	5.9	-14.0
1955	8.9	111.0	-13.1	-4.3	1.6	53.9	5.4	163.4
1956	29.2	111.0	3.1	4.3	---	52.6	5.0	205.2
1957	35.7	111.0	2.7	-4.3	---	51.1	4.6	200.8
1958	71.4	111.0	4.0	-4.3	.2	49.8	4.2	236.3
1959	119.0	111.0	6.8	-2.8	---	49.2	4.2	287.4
1960	119.0	195.7	6.8	2.8	.1	50.5	4.2	379.1
1961	59.5	129.5	8.1	3.3	.1	50.8	4.5	255.8
1962	71.4	111.0	10.5	1.6	.1	50.5	4.8	249.9
1963	59.5	111.0	20.2	3.6	.4	63.2	5.3	263.2
1964	69.7	112.8	20.2	3.6	.4	63.7	6.0	276.4
1965	93.5	110.3	20.2	3.6	.4	64.8	6.3	299.1
1966	75.4	158.8	20.9	3.6	.4	65.5	6.7	331.3
1967	89.2	162.8	21.6	3.7	.4	66.3	7.0	351.0

Véase tablas 37, 38 y 39.
See tables 37, 38, and 39.

Tabla 43.--Producción agrícola: Valor de cultivos no alimenticios a precios de 1958, 1950-67
Table 43.--Crop production: Value of nonfood crops at 1958 prices, 1950-67

Año Year	Algodón fibra Cotton fiber	Café Coffee	Caucho Rubber	Fique Sisal	Maiz millo Millet	Tabaco Tobacco	Total
	1,000,000 pesos						
1950	33.8	1,206.4	1.0	16.0	0.9	38.1	1,296.2
1951	25.9	1,079.4	1.0	18.8	1.2	41.1	1,167.4
1952	42.2	1,437.9	1.9	20.1	1.4	39.5	1,543.0
1953	68.0	1,372.3	1.4	20.1	1.3	43.0	1,506.1
1954	111.4	1,439.5	1.4	20.5	1.2	47.4	1,621.4
1955	98.5	1,346.7	1.9	20.1	1.1	53.8	1,522.1
1956	90.0	1,196.6	2.4	19.8	1.1	68.6	1,378.5
1957	82.2	1,304.0	2.4	19.2	1.0	71.4	1,480.2
1958	103.4	1,673.2	2.4	21.4	1.2	71.8	1,873.4
1959	263.6	1,649.8	2.4	20.8	1.0	72.3	2,009.9
1960	267.2	1,714.1	2.4	22.4	1.3	46.5	2,053.9
1961	305.5	1,607.0	2.4	27.4	1.3	52.1	1,995.7
1962	328.7	1,721.6	2.4	29.2	1.3	71.5	2,154.7
1963	290.0	1,607.0	2.4	29.8	1.4	78.1	2,008.7
1964	263.6	1,671.2	2.4	31.7	1.8	77.4	2,048.1
1965	261.6	1,756.9	2.4	32.1	2.1	75.2	2,130.3
1966	351.5	1,628.4	2.4	33.3	2.2	82.7	2,100.5
1967	403.6	1,703.4	2.4	35.7	2.6	79.5	2,227.2

Véase tablas 20, 17, 22 y 18, respectivamente.
See tables 20, 17, 22 and 18, respectively.

Tabla 44.--Producción agropecuaria: Valor a precios de 1958 de la producción disponible para consumo alimenticio, 1959-67

Table 44.--Agricultural production: Value of production available for food consumption at 1958 prices, 1950-67

Año Year	Total pecuario Total livestock	Pecuario no disponible para consumo Livestock not available for food	Pecuario disponible para consumo Livestock available	Total cultivos Total crops	Cultivos no alimenticios Crops not available for food	Cultivos disponibles Crops available	Agropecuario disponible para consumo alimenticio Food available
	1,000,000 pesos						
1950	2,385.8	-219.9	2,165.9	3,266.0	1,296.2	1,969.8	4,135.7
1951	2,102.6	37.0	2,139.6	3,477.8	1,167.4	2,310.4	4,450.0
1952	2,151.6	10.2	2,161.8	3,967.1	1,543.0	2,424.1	4,677.9
1953	2,146.6	22.0	2,168.6	3,873.4	1,506.1	2,367.3	4,535.9
1954	2,185.7	14.0	2,199.7	4,078.9	1,621.4	2,457.5	4,657.2
1955	2,428.0	-163.4	2,264.6	3,993.3	1,522.1	2,471.2	4,735.8
1956	2,632.8	-205.2	2,427.6	3,856.3	1,378.5	2,477.8	4,905.4
1957	2,776.8	-200.8	2,576.0	3,962.2	1,480.2	2,482.0	4,058.0
1958	2,876.2	-236.3	2,639.9	4,400.5	1,873.4	2,527.1	5,167.0
1959	2,948.7	-287.4	2,661.3	4,784.6	2,009.9	2,774.7	5,436.0
1960	3,077.3	-379.1	2,698.2	4,849.1	2,053.9	2,795.2	5,493.4
1961	3,129.3	-255.8	2,873.5	4,882.4	1,995.7	2,886.7	5,760.2
1962	3,281.6	-249.9	3,031.7	5,302.4	2,154.7	3,147.7	6,179.4
1963	3,505.3	-263.2	3,242.1	4,979.1	2,008.7	2,970.4	6,212.5
1964	3,556.9	-276.4	3,280.5	5,261.2	2,048.1	3,213.1	6,493.6
1965	3,609.0	-299.1	3,309.9	5,462.3	2,130.3	3,332.0	6,641.9
1966	3,625.1	-331.3	3,293.8	5,573.7	2,100.5	3,473.2	6,767.0
1967	3,729.8	-351.0	3,378.8	5,817.4	2,227.2	3,590.2	6,969.0

Véase tablas 40, 42 y 43, respectivamente.

See tables 40, 42 and 43, respectively.

Tabla 45.--Producción agropecuaria: Valor total y per capita a precios de 1958, 1950-67
Table 45.--Agricultural production: Total and per capita value at 1958 prices, 1950-67

Año / Year	Producción total / Total production			Población / Population	Producción per capita / Per capita production		
	Total	Sin Equinos / Without draft animals	Agropecuario disponible para consumo alimenticio / Food available for consumption		Total	Sin Equinos / Without draft animals	Alimentos disponible para consumo / Food available for consumption
	1,000,000 pesos			1,000	Pesos		
1950	5,651.8	5,597.7	4,135.7	11,584.0	488	483	357
1951	5,580.4	5,523.7	4,450.0	11,862.0	470	466	375
1952	6,118.7	6,062.6	4,677.9	12,159.0	503	499	385
1953	6,020.0	5,964.6	4,535.9	12,475.0	483	478	364
1954	6,264.6	6,210.4	4,657.2	12,812.0	489	485	364
1955	6,421.3	6,367.4	4,735.8	13,170.0	488	483	360
1956	6,489.1	6,436.5	4,905.4	13,552.0	479	475	362
1957	6,739.0	6,687.9	5,058.0	13,969.0	482	479	362
1958	7,276.7	7,226.9	5,167.0	14,412.0	505	501	359
1959	7,733.3	7,684.1	5,436.0	14,868.0	520	517	366
1960	7,926.4	7,875.9	5,493.4	15,353.0	516	513	358
1961	8,011.7	7,960.9	5,760.2	15,853.0	505	502	363
1962	8,584.0	8,533.5	6,179.4	16,369.0	524	521	378
1963	8,484.4	8,421.2	6,212.5	16,917.0	502	498	367
1964	8,818.1	8,754.4	6,493.6	17,484.0	504	501	371
1965	9,071.3	9,006.5	6,641.9	18,062.0	502	499	368
1966	9,198.8	9,133.3	6,767.0	18,658.0	493	490	363
1967	9,547.2	9,480.9	6,969.0	19,274.0	495	492	362

Véase tablas 41, 44 y fuentes de información.
See tables 41, 44 and sources of data.

Tabla 46.--Precios corrientes pagados al productor a nivel nacional, 1948-67
Table 46.--Current prices paid to the producer, 1948-67

Año Year	Grupo 1 Group 1	Grupo 2 Group 2			
	Café Coffee	Yuca Yuca	Fríjol Beans, edible	Plátano Plantains	Panela Sugar, noncentrífugal
	Pesos por tonelada				
	Pesos per ton				
1948	851	116	480	58	257
1949	1,123	110	538	70	260
1950	1,476	110	1,180	128	184
1951	1,875	130	1,080	138	205
1952	2,003	100	880	137	233
1953	2,098	107	980	138	256
1954	2,836	173	1,140	180	243
1955	2,472	193	1,070	185	217
1956	3,270	198	1,360	188	235
1957	3,640	215	1,440	221	423
1958	3,571	200	1,440	230	500
1959	2,842	250	1,400	265	460
1960	3,105	303	2,000	224	392
1961	3,281	378	2,777	305	377
1962	3,209	338	2,006	368	541
1963	3,966	398	2,419	459	993
1964	4,990	755	4,151	672	1,133
1965	5,004	658	3,477	698	885
1966	5,867	691	3,662	801	1,003
1967	6,080	795	4,494	747	854

Véase fuentes de información.
See sources of data.

Continued--

Tabla 46.--Precios corrientes pagados al productor a nivel nacional, 1948-67--Continuación
Table 46.--Current prices paid to the producer, 1948-67--Continued

Año Year	Grupo 3 Group 3				Grupo 4 Group 4		
	Maíz Corn	Papa Potatoes	Trigo Wheat	Tabaco Tobacco	Banano, cons. interno Bananas, internal cons.	Banano, exportación Bananas, export	Cacao Cocoa
	Pesos por tonelada						
	Pesos per ton						
1948	218	225	572	881	118	146	2,111
1949	217	240	634	1,297	120	174	1,653
1950	290	337	610	1,290	120	192	2,150
1951	280	282	620	1,200	125	232	2,250
1952	205	212	630	1,370	125	251	2,200
1953	240	278	630	1,175	140	251	2,300
1954	330	319	710	1,370	145	258	3,100
1955	300	211	650	1,360	150	256	2,700
1956	350	312	680	1,370	150	302	2,650
1957	430	311	760	1,870	175	516	3,600
1958	385	370	870	1,870	250	501	4,000
1959	450	304	940	1,900	290	387	5,950
1960	474	350	880	1,989	306	440	5,759
1961	629	504	975	2,009	325	444	5,480
1962	526	291	957	2,706	364	438	5,575
1963	794	730	1,052	3,000	425	607	6,589
1964	1,040	1,054	1,394	4,067	578	701	7,053
1965	903	612	1,525	4,858	653	787	7,179
1966	1,104	983	1,755	5,060	682	808	7,938
1967	1,203	876	1,756	5,488	749	1,031	8,274

Véase fuentes de información.
See sources of data.

Continued--

Tabla 46.--Precios corrientes pagados al productor a nivel nacional, 1948-67--Continuación
Table 46.--Current prices paid to the producer, 1948-67--Continued

Año Year	Grupo 5 Group 5					Grupo 5A Group 5A			
	Algodón Semilla (rama) Seed cotton (fiber & seed)	Algodón fibra Cotton fiber	Semilla de algodón Cottonseed	Arroz, cáscara: Rice, rough	Cana de azúcar Sugarcane	Ajonjolí Sesame	Cebada Barley	Soya Soybeans	Sorgo Grain sorghum
	Pesos por tonelada								
	Pesos per ton								
1948	492	1,536	108	330	6.80	450	268	---	---
1949	784	1,971	150	332	7.00	525	294	---	---
1950	807	2,146	150	350	7.43	588	300	---	---
1951	897	2,522	150	465	9.08	588	365	---	---
1952	953	2,700	150	345	10.60	588	410	---	---
1953	938	2,600	150	400	11.40	588	390	---	---
1954	882	2,600	150	470	11.70	588	380	---	---
1955	858	2,500	150	475	12.20	686	400	---	---
1956	883	2,513	150	485	12.37	833	425	---	---
1957	1,173	3,269	250	615	20.60	1,323	480	825	---
1958	1,550	3,994	412	750	27.00	1,323	580	850	---
1959	1,770	4,377	420	770	30.00	1,323	630	1,050	---
1960	1,726	4,417	420	883	30.00	1,519	624	800	---
1961	1,753	4,535	420	954	33.00	1,617	637	850	---
1962	1,844	5,230	440	919	37.00	2,250	642	900	700
1963	2,236	5,750	600	1,046	44.86	2,450	828	1,200	800
1964	2,567	6,298	850	1,347	66.78	2,850	898	1,600	821
1965	3,506	7,242	950	1,703	62.97	3,283	999	1,700	857
1966	3,550	8,183	1,050	1,884	70.21	3,682	1,284	1,850	896
1967	3,678	8,183	1,050	1,914	62.50	3,934	1,274	1,930	900

Véase fuentes de información.
See sources of data.

Tabla 47.--Precios al agricultor deflactados por los precios implícitos del P.I.B., 1950-67
Table 47.--Deflated prices paid to the producer--deflated by implicit prices of gross national product, 1950-67

Año Year	Grupo 1 Group 1	Grupo 2 Group 2			
	Café Coffee	Yuca Yuca	Fríjol Beans, edible	Plátano Plantains	Panela Sugar, noncentrífugal
	Pesos por tonelada, a precios de 1958 / Pesos per ton, in 1958 prices				
1950	2,759	205	2,205	239	344
1951	3,178	220	1,830	234	347
1952	3,343	167	1,469	229	389
1953	3,341	170	1,560	220	408
1954	4,057	247	1,631	257	348
1955	3,541	275	1,533	265	311
1956	4,342	263	1,806	250	312
1957	4,113	243	1,627	250	478
1958	3,571	200	1,440	230	500
1959	2,679	236	1,319	250	433
1960	2,707	264	1,744	195	342
1961	2,637	304	2,232	245	303
1962	2,428	256	1,669	278	409
1963	2,436	244	1,486	282	610
1964	2,633	398	2,190	355	598
1965	2,441	321	1,696	331	432
1966	2,451	239	1,530	334	419
1967	2,329	263	1,582	329	389

Véase fuentes de información.

See sources of data.

Continued--

Tabla 47.--Precios al agricultor deflactados por los precios implícitos del P.I.B., 1950-67--Continuación

Table 47.--Deflated prices paid to the producer--deflated by implicit prices of gross national product, 1950-67--Continued

Año Year	Grupo 3 Group 3				Grupo 4 Group 4		
	Maíz Corn	Papa Potatoes	Trigo Wheat	Tabaco Tobacco	Banano, cons. interno Bananas, internal cons.	Banano, exportación Bananas, export	Cacao Cocoa
	Pesos por tonelada, a precios de 1958 / Pesos per ton, in 1958 prices						
1950	542	630	1,140	2,411	224	359	4,018
1951	474	478	1,051	2,034	212	393	3,813
1952	342	354	1,052	2,287	209	419	3,673
1953	382	443	1,003	1,871	223	400	3,662
1954	472	456	1,016	1,960	207	370	4,435
1955	430	302	931	1,948	215	367	3,868
1956	465	414	903	1,819	199	401	3,519
1957	486	351	859	2,113	198	583	4,068
1958	385	370	870	1,870	250	501	4,000
1959	424	286	886	1,791	273	365	5,608
1960	413	305	767	1,734	267	384	5,021
1961	506	405	784	1,615	261	357	4,405
1962	398	220	724	2,047	275	331	4,217
1963	488	448	646	1,843	261	373	4,047
1964	548	556	736	2,146	305	370	3,722
1965	440	298	744	2,370	318	384	3,502
1966	461	411	733	2,114	285	337	3,316
1967	440	327	785	1,947	287	335	3,125

Véase fuentes de información.

See sources of data.

Continued--

Tabla 47.--Precios al agricultor deflactados por los precios implícitos del P.I.B., 1950-67--Continuación

Table 47.--Deflated prices paid to the producer--deflated by implicit prices of gross national product, 1950-67--Continued

Año Year	Grupo 5 Group 5					Grupo 5A Group 5A			
	Algodón semilla (rama) Seed cotton (fiber & seed)	Algodón fibra Cotton fiber	Semilla de algodón Cottonseed	Arroz, cáscara Rice, rough	Cana de azúcar Sugarcane	Ajonjolí Sesame	Cebada Barley	Soya Soybeans	Sorgo Grain sorghum
	Pesos por tonelada, a precios de 1958 / Pesos per ton, in 1958 prices								
1950	1,508	4,011	280	654	14	1,099	561	---	---
1951	1,520	4,274	254	788	15	997	619	---	---
1952	1,591	4,507	250	576	18	982	684	---	---
1953	1,494	4,140	239	637	18	936	621	---	---
1954	1,262	3,719	215	672	17	841	544	---	---
1955	1,229	3,582	215	680	17	983	573	---	---
1956	1,173	3,337	199	644	16	1,106	564	---	---
1957	1,325	3,695	282	695	23	1,495	542	---	---
1958	1,550	3,994	412	750	27	1,323	580	850	---
1959	1,671	4,125	396	726	28	1,247	594	990	---
1960	1,505	3,851	366	770	26	1,324	544	697	---
1961	1,409	3,645	338	767	26	1,300	512	683	---
1962	1,395	3,956	333	695	28	1,702	486	681	529
1963	1,373	3,532	368	642	27	1,505	508	737	491
1964	1,355	3,323	448	711	35	1,504	474	844	433
1965	1,710	3,533	463	831	31	1,601	487	829	418
1966	1,483	3,419	438	787	29	1,538	536	773	374
1967	1,436	3,134	402	785	26	1,417	517	---	345

Véase fuentes de información.

See sources of data.

Sources of Data

Major Crops

Coffee Beans

Production

1948-55 Federacion Nacional de Cafe teros, *Boletin de Informacion Estadistica sobre Cafe,* no. 37, 1961, p. 15.

1956 Office of the Agricultural Attache, Foreign Agricultural Service, U.S. Department of Agriculture, American Embassy, *Colombian Agriculture,* Bogota, Nov. 1965, table 3, p. 96.

1957 *Boletin de Informacion Estadistica sobre Cafe,* no. 37, loc. cit.

1958-59 *Colombian Agriculture,* loc. cit.

1960-64 Federacion Nacional de Cafe teros, *Boletin de Informacion Estadistica sobre Cafe,* no. 41, 1967, p. 33. 1965-67: Information direct from Coffee Federation.

Data are given in coffee years ending on September 30, i.e., the coffee year 1948-49 is considered as 1949.

Area

1948-57 FAO, *World Crop Statistics.* Rome, 1966, table 68, p. 376.

1958-60 "Calculos de Productos Agricolas, 1952-57," *Carta Agraria,* no. 165, July 1965, annex, p. II.

1961-67 *Boletin de Informacion Estadistica sobre Cafe,* no. 41, loc. cit.

Yuca

Production

1948-59 Ministerio de Agricultura, unpublished data.

1960-65 *Colombian Agriculture,* table 18, p. 111.

1966-67 American Embassy, *Colombia: Agricultural Situation,* Bogota, Oct. 19, 1967, table 2, p. 10.

Area

1948-50 Acreage was obtained by means of keeping the 1951 yield constant, and using the Ministerio de Agricultura production figures.

1951-65 *Colombian Agriculture,* table 18, p. 111.

1966-67 *Colombia: Agricultural Situation,* loc. cit.

Beans

Production

1948-52 Guillermo Palacio del Valle, Ministerio de Agricultura, *Desarrollo Agricola de Colombia, 1940-1952,* Bogota, July 1953, table 31.

1953-54 Banco de la Republica, "Produccion Agricola y su Valor a Precios Corrientes de Cada Ano, 1950-66," unpublished data.

1955 Francisco Morazan, Instituto de Mercadeo Agropecuario (IDEMA), *Rendimientos, Area y Produccion de Frijol,* Bogota, July 1965.

1956 Banco de la Republica, loc. cit.

1957 IDEMA, loc. cit.

1958-60 Banco de la Republica, loc. cit.

1961-63 IDEMA, loc. cit.

1964-65 *Columbian Agriculture,* table 14, p. 107.

1966-67 *Colombia: Agricultural Situation,* loc. cit.

Area

1948-52 Palacio del Valle, op. cit., table 30.

1953-62 *Colombian Agriculture,* table 14, p. 107.

1963 IDEMA, *Rendimientos, Area y Produccion de Frijol.*

1964-65 *Colombian Agriculture,* table 14.

1966-67 *Colombia: Agricultural Situation,* loc. cit.

Plantains

Production

1948-49 Palacio del Valle, op. cit., table 13.

1950-66 Banco de la Republica, "Produccion Agricola y su Valor. . ."

1967 Enrique Latorre, Banco de la Republica, direct information.

Area

There were no available data. Thus, acreage estimates were calculated from yields and production for most years.

1948 Palacio del Valle, op. cit., table "14 bis."

1949-50 Acreage was calculated by considering an "appropriate" yield matching the Caja Agraria yield series beginning in 1952. The combined area and production for plantains and bananas in Palacio del Valle, op. cit., table "14 bis", were also used to get a better estimate assuming that yields for both crops remained the same for such a period.

1951 The yield was calculated from acreage and production in *Colombian Agriculture,* table 15, p. 108. Then, acreage was obtained from this yield and the corresponding Banco de la Republica production figure.

1952-65 Area was obtained by dividing production by yield. Production data were taken from Banco de la Republica, "Produccion Agricola. . ."; yield data from *Carta Agraria,* no. 165, loc. cit.

1966-67 *Colombia: Agricultural Situation,* loc. cit.

Noncentrifugal Sugar (Panela)

Production

1948-67 Victaliano Izquierdo, Asociacion Nacional de Cultivadores de Cana de Azucar (ASOCANA), letter dated on Mar. 30, 1968.

Area

1948-67 The same source as above.

Corn

Production

1948-52 Guillermo Palacio del Valle, op. cit., table 34.

1953-54 *Carta Agraria,* no. 165, loc. cit.

1955-65 Guillermo A. Guerra, *Economic Aspects for Corn and Milo in Colombia,* Medellin: Seccion de Economia Agricola y Extension Rural, Facultad de Agronomia e Instituto Forestal, Universidad Nacional de Colombia, 1966, tables II 2a and 2b, pp. 11 and 12.

1966 Federacion Nacional de Cultivadores de Cereales (FENALCE), preliminary figure, direct information.

1967 American Embassy, *Colombia: Grain and Feed,* Bogota, Feb. 9, 1968, table 3, p. 8.

Area

1948-52 Palacio del Valle, op. cit., table 34.

1953-54 *Carta Agraria,* no. 165, loc. cit.

1955-58 Ministerio de Agricultura, "Produccion, Hectareas Cultivadas de Articulos Agricolas y Valor de la Produccion a Precios de 1958," Bogota, unpublished data, Oct. 1963.

1959-65 Francisco Morazan, IDEMA, *Area, Rendimientos y Produccion de Maiz,* Bogota, July 1965.

1966 FENALCE, preliminary figure, direct information.

1967 *Colombia: Grain and Feed,* loc. cit.

Potatoes

Production

1948-52 Palacio del Valle, op. cit., table 42.

1953-54 Banco de la Republica, "Produccion Agricola y su Valor. . ."

1955-65 Francisco Morazan, IDEMA, *Area, Rendimientos y Produccion de Papa,* Bogota, July 1965.

1966-67 *Colombia: Agricultural Situation,* loc. cit.

Area

1948-54 There were no available figures for the period. It was decided to get a ratio between the Ministry of Agriculture and the IDEMA figures for the period 1955-58, and extrapolate a ratio for the 1948-54 period.

1955-65 Francisco Morazan, op. cit.

1966-67 *Colombia: Agricultural Situation,* loc. cit.

Wheat

Production

1948-52 Palacio del Valle, op. cit., table 49.

1953 *Carta Agraria,* no. 165, loc. cit.

1954-65 Economic Research Service, U.S. Department of Agriculture, *Indices of Agricultural Production for the 20 Latin American Countries,* Washington, D.C., Jan. 1967, table 15, p. 16.

1966 *Colombia: Agricultural Situation,* loc. cit.

1967 *Colombia: Grain and Feed,* table 1, p. 3.

Area

1948-51 Palacio del Valle, loc. cit.

1952-65 *Colombian Agriculture,* table 4, p. 97.

1966 *Colombia: Agricultural Situation,* loc. cit.

1967 *Colombia: Grain and Feed,* loc. cit.

Leaf Tobacco

Production

1948-64 Instituto Nacional de Fomento Tabacalero (INTABACO), "Produccion, Importacion y Exportacion Colombiana de Tabaco en Rama, 1941-64," unpublished data.

1965 Agricultural Attache, American Embassy, data from report no. 58, Mar. 29, 1967, table 1, p. 5.

1966-67 Foreign Agricultural Service, U.S. Department of Agriculture, *Colombia: Tobacco,* Bogota, Mar. 27, 1968, table 1, p. 5.

Area

1948-52 Palacio del Valle, op. cit., table 46.
1953-54 *Colombian Agriculture,* table 10, p. 103.
1955-56 INTABACO, *Resumen Estadistico: Tabaco,* Bogota, 1959, p. 7.
1957 *Colombian Agriculture,* loc. cit.
1958 INTABACO, *Resumen Estadistico,* loc. cit.
1959-63 _____ , *Censo Tabacalero de Colombia, 1963,* Bogota, 1964, p. 53.
1964 _____ , *Censo Tabacalero de Colombia, 1964,* Bogota, 1965, p. 43.
1965 _____ , direct information.
1966 *Colombia: Agricultural Situation,* loc. cit.
1967 *Colombia: Tobacco,* p. 1.

Bananas

Production

1948-49 Palacio del Valle, op. cit., table "14 bis."
1950-67 Banco de la Republica, direct information.

Area

1948-50 Compania Frutera de Sevilla.
1951-65 *Colombian Agriculture,* table 16, p. 109.
1966-67 *Colombia: Agricultural Situation,* loc. cit.

Cocoa Beans

Production

1948-49 Palacio del Valle, op. cit., table 15.
1950-66 Banco de la Republica, "Produccion Agricola y su Valor. . ."
1967 *Colombia: Agricultural Situation,* loc. cit.

Area

1948-52 Palacio del Valle, table 15.
1953-58 Jorge David, Ministerio de Agricultura, direct information.
1959 _____ , *Algunas Notas sobre Fomento de Cacao,* Bogota, June 15, 1961, p. 13.
1960-66 Ministerio de Agricultura, et. al., *Programa Nacional Integral de Fomento Cacaotero, 1967-1973,* Bogota, 1967, table 1, p. 3.
1967 *Colombia: Agricultural Situation,* loc. cit.

Cotton Fiber

Production

1948-57 Instituto de Fomento Algo donero (IFA), *Estadisticas Algodoneras de Colombia,* Bogota, Oct. 1967, table 1. These data refer to calendar years.
1958-65 *Colombian Agriculture,* table 7, p. 100.
1966-67 *Colombia: Agricultural Situation,* loc. cit. The data for the 1958-67 period refer to cotton years ending on July 31, i.e., the cotton year 1959-60 is considered as 1960.

Area

1948-59 IFA, *Estadisticas Algodoneras de Colombia,* loc. cit.
1960-63 *Colombian Agriculture,* table 7.
1964 *Estadisticas Algodoneras,* loc. cit.
1965 *Colombian Agriculture,* loc. cit.
1966-67 *Colombia: Agricultural Situation,* loc. cit.

Cottonseed

Production

1948-51 *Estadisticas Algodoneras,* loc. cit. Data refer to calendar years.
1952-65 Information direct from IFA for cotton years.
1966-67 *Colombia: Agricultural Situation,* loc. cit. The data for the 1954-67 period refer to cotton years.

Paddy Rice

Production

1948 Federacion Nacional de Arroceros (FEDEARROZ), Jorge Ruiz Quiroga, *El Arroz en la Economia Colombiana,* Informe al XI Congreso Nacional, Bogota, 1967, table 13, p. xiii.
1949 Palacio del Valle, op. cit., table 5.
1950-65 Ministerio de Agricultura, unpublished information, Oct. 1965.
1966 "Produccion Nacional Arrocera en 1966," *Arroz,* no. 169, vol. 16 (June 1967), p. 17.
1967 "Produccion Nacional de Arroz en 1967," *Arroz,* no 177, vol. 17 (May 1968), p. 18.

Area

1948-49 Wilson Moreno, FEDEARROZ, direct information.
1950-65 Ministerio de Agricultura, Oct. 1967.
1966 "Produccion Nacional Arrocera en 1966," p. 16.
1967 "Produccion Nacional de Arroz en 1967," loc. cit.

Raw Sugar

Production

1948-67 Victaliano Izquierdo, ASOCANA, letter dated on Mar. 30, 1968.

Area

1948-67 The same source as above.

Sesame

Production

1948-62 IFA, *Colombia: Algodon y Oleaginosas, 1961-62,* Economia y Estadisticas, Bogota, 1963, table 32, p. 64.
1963-66 Statistical Section Files, IFA.
1967 Enrique Blair, *Memoria del Ministro de Agricultura al Congreso Nacional, 1967-68,* Bogota, July 1968, table 14, p. 131.

Area

1948-51 FAO, op. cit., table 61, p. 351.
1952-54 *Carta Agraria,* no. 165, loc. cit.
1955-57 *Colombia: Algodon y Oleaginosas,* loc. cit.
1958-60 Statistical Section Files, IFA.
1961-66 Statistical Section, IFA, direct information.
1967 Enrique Blair, loc. cit.

Barley

Production

1948-58 Hernando Carrizosa and Rafael Grosso, Asociacion para el Fomento y el Cultivo de la Cebada (PROCEBADA), direct information.
1959-60 Economic Research Service, U.S. Department of Agriculture, Bogota, direct information.
1961-64 PROCEBADA, direct information.
1965 PROCEBADA, direct information.
1966 *Colombia: Agricultural Situation,* loc. cit.
1967 *Colombia: Grain and Feed,* table 2, p. 6.

Area

1948-67 Hernando Carrizosa and Rafael Grosso, PROCEBADA, Malterias Unidas, and Bavaria, direct information.

Soybeans

Production

1954-55 *Colombia: Algodon y Oleaginosas,* table 34, p. 65.
1956-65 *Indices of Agricultural Production for the 20 Latin American Countries,* loc. cit.
1966-67 American Embassy, *Colombia: Fats and Oils,* Apr. 18, 1968, table 5, p. 11.

Area

1958-59 Economic Research Service, U.S. Department of Agriculture, unpublished data for *Changes in Agriculture in 26 Developing Nations, 1948-63.*
1960-66 IFA, "Extension Cultivada, Produccion y Derivados de Soya Producida en el Pais desde 1958."
1967 *Colombia: Fats and Oils,* loc. cit.

Sorghum

Production

1962-67 Division de Cultivos, Ministerio de Agricultura, based upon information from feed processors.

Area

1962-67 The same source.

Minor Crops

Production

1950-67 Enrique Latorre, Banco de la Republica, direct information.

Value of Production

The 1958 average price per ton of each one of the major and minor crops and livestock was obtained and then multiplied by the quantity produced each year. The 1958 average price per ton comes from Economic Research Department, Banco de la Republica, "Estimacion de la Produccion Agricola y su Valor a Precios Corrientes de Cada Ano."

Cattle Slaughter

1950-66 Enrique Latorre, Banco de la Republica, direct information.
1967 "Deguello de Ganado Mayor por Secciones del Pais y Municipios, 1967," *Boletin Mensual de Estadistica,* no. 204, Mar. 1968, p. 249.

Other Livestock Production

1950-67 Enrique Latorre, Banco de la Republica, direct information.

Milk Production

1950-63 Enrique Latorre, Banco de la Republica.
1954-65 *Indices of Agricultural Production for the 20 Latin American Countries,* p. 16.
1966-67 American Embassy, direct information.

Livestock Products Except Milk

1950-67 Enrique Latorre, Banco de la Republica.

Population

1950-67 Alvaro Lopez, Centro de Estudios sobre Desarrollo Economico (CEDE), Universidad de los Andes, direct information.

Prices, Major Crops

The prices paid to producers at the national level (table 46) are estimates made by the central bank (Banco de la Republica), with the following exceptions: Coffee prices are from Federacion Nacional de Cafeteros; cotton and sesame prices are from Instituto de Fomento Algodonero.

The deflated prices (table 47) are obtained by using the implicit price deflators for gross national product (Producto Interno Bruto).

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